

Resilience Series

RAAKE



Commissioned by the **Cybersecurity and Infrastructure Security Agency**
Written by **Clint Watts** and **Farid Haque**



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Resilience Series

RAAKE

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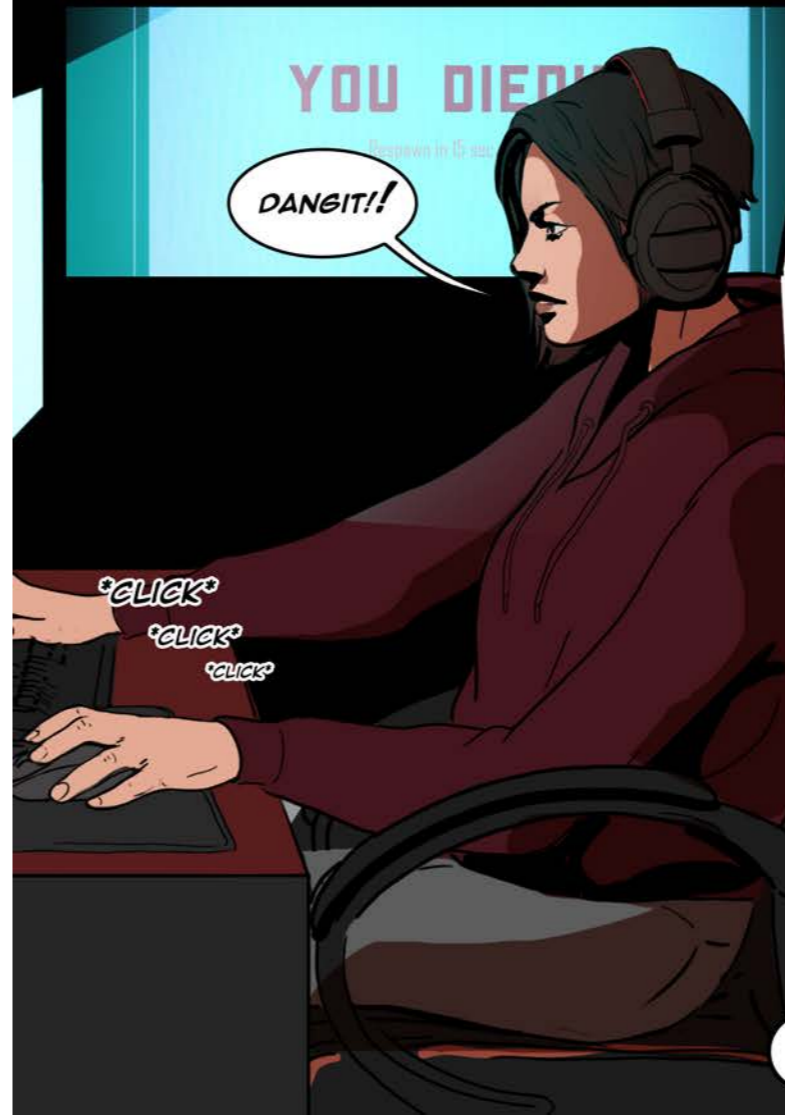
VOTER ADVOCACY GROUP OFFICE



YOU DIED

DANGIT!!

CLICK
CLICK
CLICK





WHOA! WATCH IT! I KNOW YOU DON'T HAVE ANOTHER \$200 FOR A GAMING MOUSE.

SORRY, I DIDN'T MEAN TO SLAM IT DOWN SO HARD!

...YEAH. NO. I DON'T KNOW.



WHAT'S GOING ON WITH YOU LATELY? YOU'VE BEEN ON EDGE A LOT AND IT'S AFFECTING YOUR GAME.

I KNOW IT'S SILLY, BUT THIS TROLL ON COMMBLOGZ HAS GOTTEN UNDER MY SKIN.



TROLL? WHAT KIND OF TROLL? IS HE TRASHING OUR TEAM?

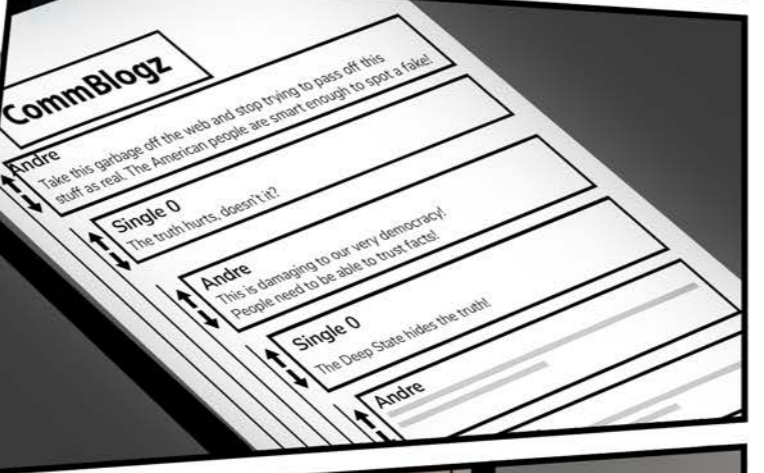
NO, IT'S POLITICAL.

HERE WE GO WITH THE POLITICS AGAIN. THAT'S ALL JUST A DISTRACTION. FOCUS ON WHAT'S IMPORTANT: WINNING.



YOU WILL NEVER GET IT. POLITICS IS IMPORTANT TO ME--

RACHEL, I DON'T THINK I AM IN THE MOOD FOR A LECTURE RIGHT NOW...



THIS GUY IS CLEARLY A TROLL. I DON'T KNOW WHY I BOTHER TO REPLY



JUST LISTEN, FOR ONCE! THIS GUY, SINGLE0 ON COMMBLOGZ, POSTED ALL THESE CLEARLY MANIPULATED VIDEOS. PEOPLE WATCH THEM AND BELIEVE THEY'RE REAL.



THAT GETS SHARED AND THEN PEOPLE DON'T HAVE THE FACTS! THAT'S DANGEROUS.

THIS MEANS A LOT TO YOU, I KNOW BUT--



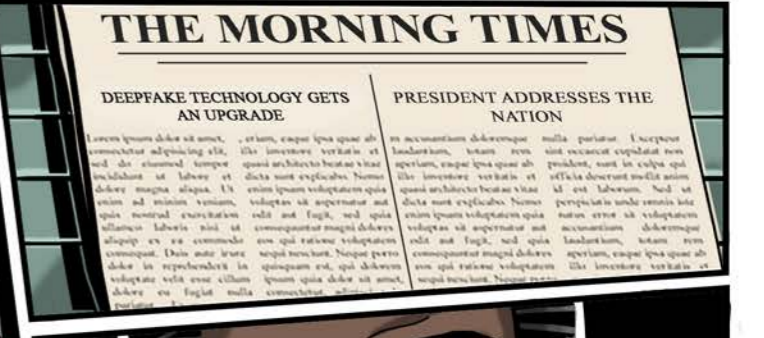
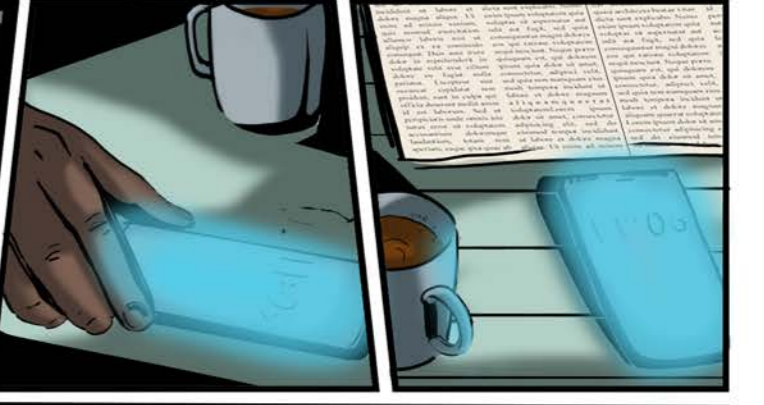
CHECK THIS OUT! I DUG INTO HIS PROFILE AND IT'S CONNECTED TO SOME KID'S ACCOUNT IN KOREA! DO YOU REALIZE WHAT THAT MEANS?

PERHAPS YOU HAVE TOO MUCH TIME ON YOUR HANDS?

SHOULDN'T YOU BE PRACTICING, INSTEAD OF MESSING AROUND ON COMMBLOGZ?



SIGH... NEVERMIND...



OH MAN... THIS IS REALLY GOING TO SEND THE MEDIA INTO A FRENZY. WHILE OUR NEWS DOES THE RIGHT THING BY TALKING ABOUT THESE "SYNTHETIC VIDEOS" THE REAL ISSUE IS THAT THEY ARE SO FEEDING THE "LIAR'S DIVIDEND".



"LIAR'S DIVIDEND IS THE UNINTENDED OUTCOME OF SHINING A LIGHT ON DISINFORMATION, WHICH IN TURN CAUSES DOUBT AROUND THE VERACITY OF NEWS (TRUE OR NOT), INADVERTENTLY HELPING THOSE THAT SPREAD LIES.



CREEPIN' AROUND
LIKE NO ONE KNOWS
THINK YOU'RE SO
CRIMINAL...

BAD GUY
- BILLIE EILISH



4



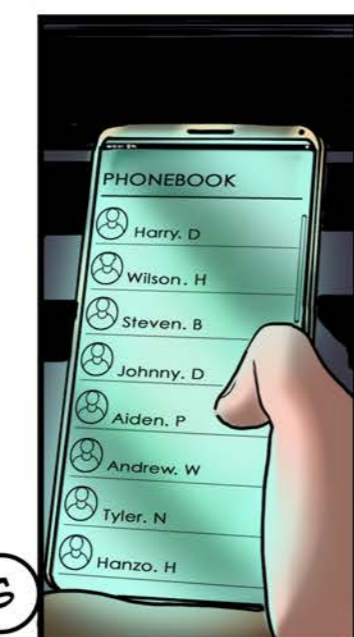
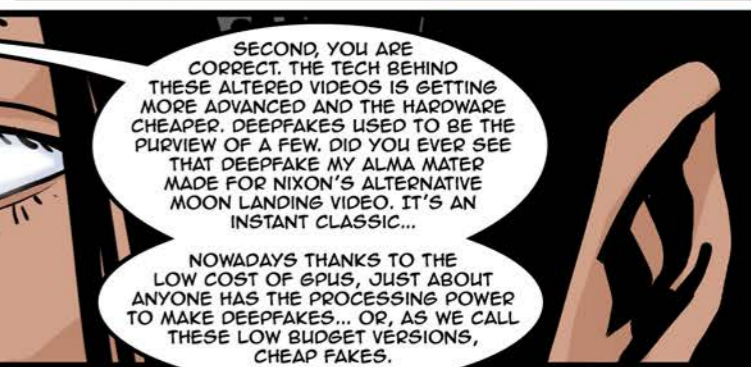
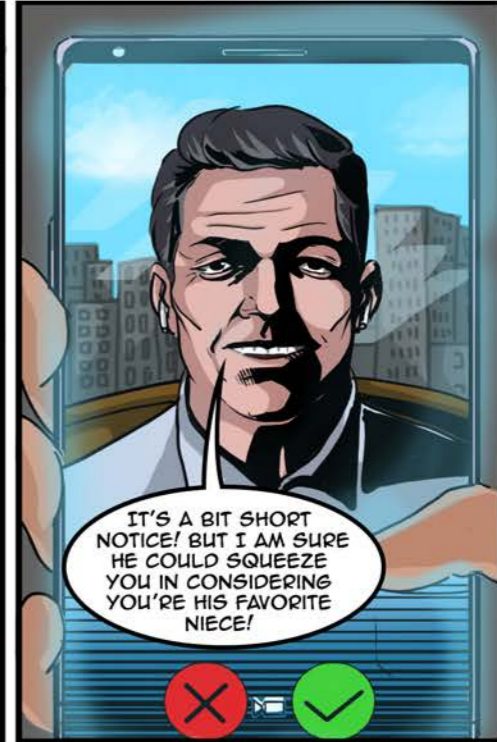
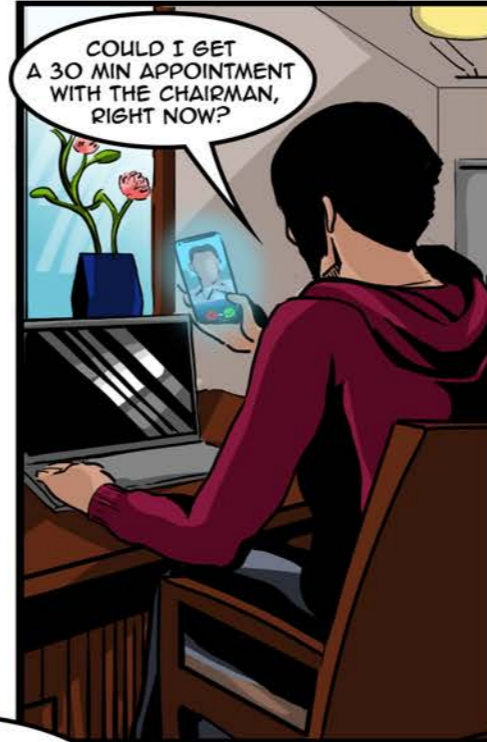
WHAT
A DAY!

Woof!



HI CHEWIE...
THAT'S A
GOOD BOY...
MISS ME?

5



*GPU'S IS THE ACRONYM USED TO DESCRIBE GRAPHICS PROCESSING UNITS WHICH ARE SPECIALIZED, ELECTRONIC CIRCUITS DESIGNED TO RAPIDLY MANIPULATE AND ALTER MEMORY FOR A HARDWARE DEVICE TO ACCELERATE THE CREATION OF IMAGES. THEY ARE OFTEN USED TO IMPROVE PERFORMANCE FOR PERSONAL COMPUTERS, WORKSTATIONS, AND GAME CONSOLES (AS WELL AS OTHER DEVICES) THAT NEED TO DEAL WITH LARGE IMAGE RELATED DATA.



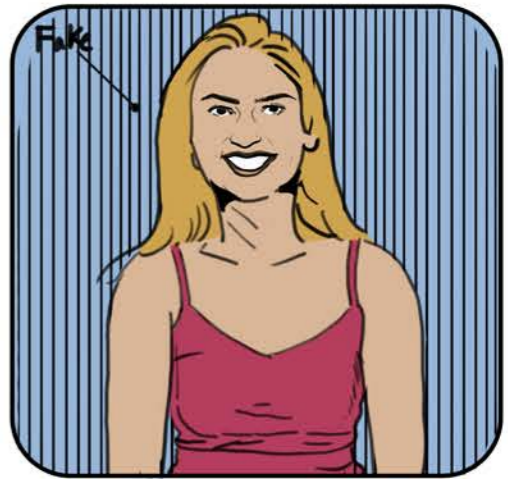
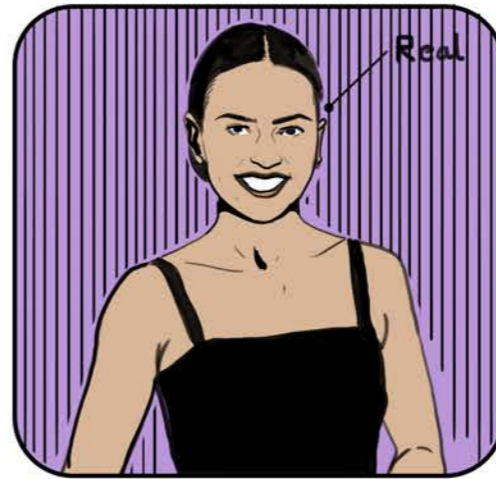
A BRIEF HISTORY OF DEEPPFAKES.

THE TERM "DEEPPFAKE," A COMBINATION OF "DEEP LEARNING" AND "FAKE," IS USED TO DESCRIBE SYNTHETIC VIDEO OR AUDIO CONTENT, WHICH IS OFTEN CREATED WITH MALICIOUS INTENT TO SPREAD MIS AND/OR DISINFORMATION. THE TERM WAS FIRST USED BY A REDDIT USER IN 2017.



THE FIRST DEEPPFAKES THAT GAINED NOTORIETY WERE MOSTLY FOCUSED ON NON-CONSENSUAL PORNOGRAPHY, CREATING SYNTHETIC MEDIA, OFTEN USING CELEBRITIES AS SUBJECTS, TO GARNER WIDESPREAD SHARING. IN MANY CASES THE SYNTHETIC MEDIA HAS BEEN USED AS A WAY TO SHAME, HUMILIATE, AND MANIPULATE VICTIMS AROUND THE WORLD. TECHNIQUES HAVE RANGED FROM FACE-SWAPPING TECHNOLOGY TO MUCH MORE COMPLEX APPLICATIONS.

THE TECHNOLOGY IS REPORTED TO HAVE EMERGED INITIALLY FROM ACADEMIC RESEARCH AT THE UNIVERSITY OF CALIFORNIA - BERKELEY AND WAS REFINED BY COMPUTER VISION EXPERTS IN SILICON VALLEY. THE MAJOR BREAKTHROUGH IS ATTRIBUTED TO A PAPER PUBLISHED BY A TEAM AT BERKELEY TITLED "VIDEO REWRITE: DRIVING VISUAL SPEECH WITH AUDIO." IN THIS PAPER, THE TEAM FOCUSED ON THE IMPORTANCE OF SYNCING LIP MOVEMENTS AND SPEECH AT A TIME WHEN MUCH OF APPLIED ARTIFICIAL INTELLIGENCE IN THE SPACE OF MACHINE LEARNING WAS LARGELY THEORETICAL.

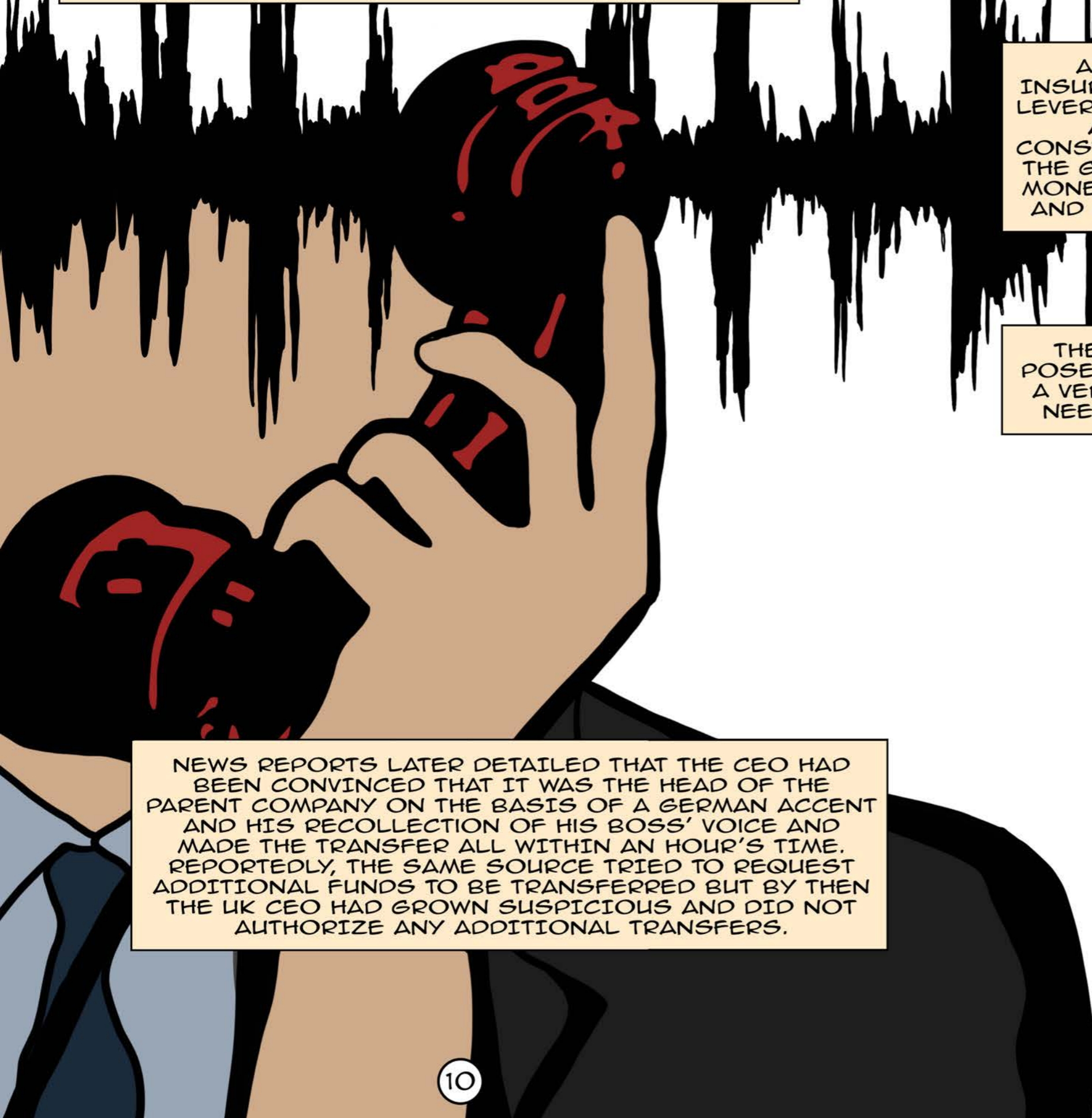


DEEPPFAKES HAVE COME BY WAY OF NOT ONLY VIDEO BUT AUDIO TOO. THE ABILITY TO USE READILY AVAILABLE AND AFFORDABLE SOFTWARE TO CREATE FAKE SOUND OR VIDEO HAS BECOME AVAILABLE TO THE MASSES AS THE COST OF GRAPHICAL PROCESSING UNITS HAS FALLEN AND THE NECESSARY PROCESSING POWER TO MAKE A DEEPPFAKE, WHICH WAS ONCE OUT OF REACH, HAS BECOME MORE ACCESSIBLE.

ACADEMICS HAVE ALSO BEEN HARD AT WORK SHOWCASING THE EXTENT TO WHICH DEEPPFAKES CAN BE USED TO INFLUENCE MAINSTREAM MEDIA. MIT PRODUCED A VIDEO OF PRESIDENT RICHARD NIXON WHERE THEY PLAYED OUT AN ALTERNATIVE MOON LANDING STORY. THAT DEEPPFAKE WAS USING A PRESIDENT OF YESTERDAY... FAST FORWARD TO AN ELECTION YEAR AND IMAGINE HOW VIDEO ALTERATION SOFTWARE CAN MANUFACTURE VIDEOS OF A PRESIDENTIAL CANDIDATE WITH DEVASTATING IMPACTS ON THE CONFIDENCE OF VOTERS IN THE INFORMATION THEY INGEST.



IN MARCH 2019, THE CEO OF A UK-BASED ENERGY FIRM WAS ASKED OVER A CALL, BY SOMEONE HE THEN THOUGHT TO BE THE HEAD OF HIS GERMAN PARENT COMPANY, TO TRANSFER 20,000 EUROS TO A HUNGARIAN SUPPLIER.



NEWS REPORTS LATER DETAILED THAT THE CEO HAD BEEN CONVINCED THAT IT WAS THE HEAD OF THE PARENT COMPANY ON THE BASIS OF A GERMAN ACCENT AND HIS RECOLLECTION OF HIS BOSS' VOICE AND MADE THE TRANSFER ALL WITHIN AN HOUR'S TIME. REPORTEDLY, THE SAME SOURCE TRIED TO REQUEST ADDITIONAL FUNDS TO BE TRANSFERRED BUT BY THEN THE UK CEO HAD GROWN SUSPICIOUS AND DID NOT AUTHORIZE ANY ADDITIONAL TRANSFERS.

ACCORDING TO THE COMPANY'S INSURANCE COMPANY, FRAUDSTERS HAD LEVERAGED DEEPPAKE TECHNOLOGY AND ARTIFICIAL INTELLIGENCE TO CONSTRUCT A LIFE-LIKE RECORDING OF THE GERMAN GROUP HEAD'S VOICE. THE MONEY WAS SYPHONED OFF TO MEXICO AND CHanneLED TO OTHER ACCOUNTS.

THE FINANCIAL, POLITICAL, AND SOCIAL THREAT POSED BY DEEPPAKES (AND TODAY CHEAP FAKES), IS A VERY REAL RISK ABOUT WHICH SOCIETY AT LARGE NEEDS TO DEVELOP AWARENESS AND RESILIENCE.



The men who went to the moon to explore in peace

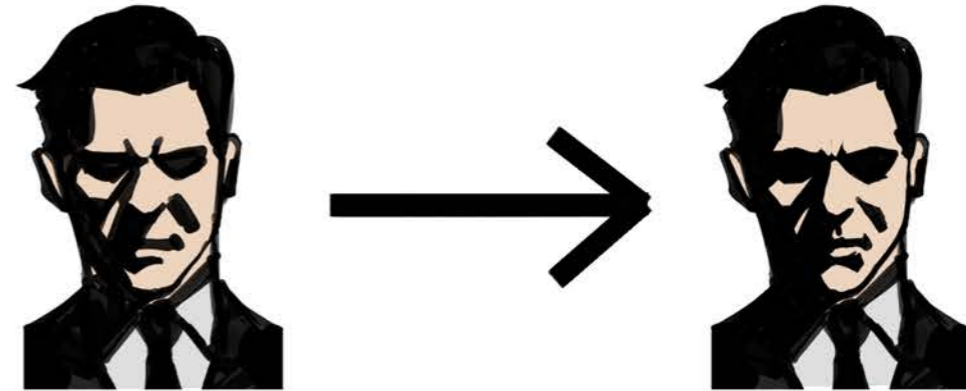
ONE TECHNIQUE FOR THE CREATION OF A DEEPFAKE VIDEO INVOLVES SWAPPING A PERSON'S FACE AND REPLACING IT WITH ANOTHER, USING A FACIAL RECOGNITION ALGORITHM AND A DEEP LEARNING COMPUTER NETWORK CALLED A VARIATIONAL AUTO-ENCODER (VAE).

VAES ARE TRAINED TO ENCODE IMAGES INTO SIMPLER LOW-DIMENSIONAL REPRESENTATIONS (THINK OF ZOOMING INTO A PICTURE TO SEE THE PIXEL) AND THEN DECODING THOSE REPRESENTATIONS BACK INTO IMAGES. FOR INSTANCE, IF YOU WANTED TO TRANSFORM A VIDEO OF ANYONE SPEAKING, YOU WOULD NEED TWO AUTO-ENCODERS. ONE TRAINED ON IMAGES OF THE SUBJECT'S FACE, AND ONE TRAINED ON IMAGES OF A WIDE RANGE OR DIVERSITY OF FACES.

THE IMAGES OF FACES USED FOR BOTH TRAINING SETS CAN BE CURATED BY APPLYING AN ALGORITHM FOR FACIAL RECOGNITION. THIS ALGORITHM IS ABLE TO CAPTURE VIDEO FRAMES FOR A DIVERSITY OF FACES IN VARIOUS NATURALLY OCCURRING POSES AND LIGHTING CONDITIONS.



TRAINING THE MACHINE IS WHY THE TERM MACHINE LEARNING IS USED TO DESCRIBE THIS PARTICULAR APPLICATION OF ARTIFICIAL INTELLIGENCE. ONCE THE MACHINE HAS LEARNED OR IS 'TRAINED,' IT IS THEN POSSIBLE TO COMBINE THE ENCODER TRAINED ON THE DIVERSE FACES WITH THE DECODER TRAINED ON THE SUBJECT'S FACE. THIS RESULTS IN THE SUBJECT'S FACE BEING ABLE TO BE PLACED ON SOMEONE ELSE'S BODY.



HOLLYWOOD HAS LEVERAGED DEEPPFAKE TECHNOLOGY WITH GREAT SUCCESS, SUCH AS "GEMINI MAN" WHERE A MULTI-MILLION DOLLAR BUDGET PRODUCES A YOUNGER VERSION OF WILL SMITH THAT BATTLES WITH HIS CONTEMPORARY SELF. SIMILAR DE-AGING EFFECTS CAN BE SEEN IN "THE IRISHMAN" PRODUCED BY NETFLIX IN 2019.

HOLLYWOOD

WHILE THESE PRODUCTIONS SPARE NO EXPENSE AT BIG BUDGET DEEPPFAKE WORK, ONE DOES NOT HAVE TO SEARCH TOO LONG ON YOUTUBE TO FIND PLENTY OF EXAMPLES OF CHEAP FAKES. ONE OF THE MOST PROMINENT EXAMPLES USES WILL SMITH'S FACE SUPERIMPOSED ON KEANU REEVES' FACE IN A SCENE FROM "THE MATRIX." THIS WAS CREATED BY A YOUTUBER USING A FREE SOFTWARE.

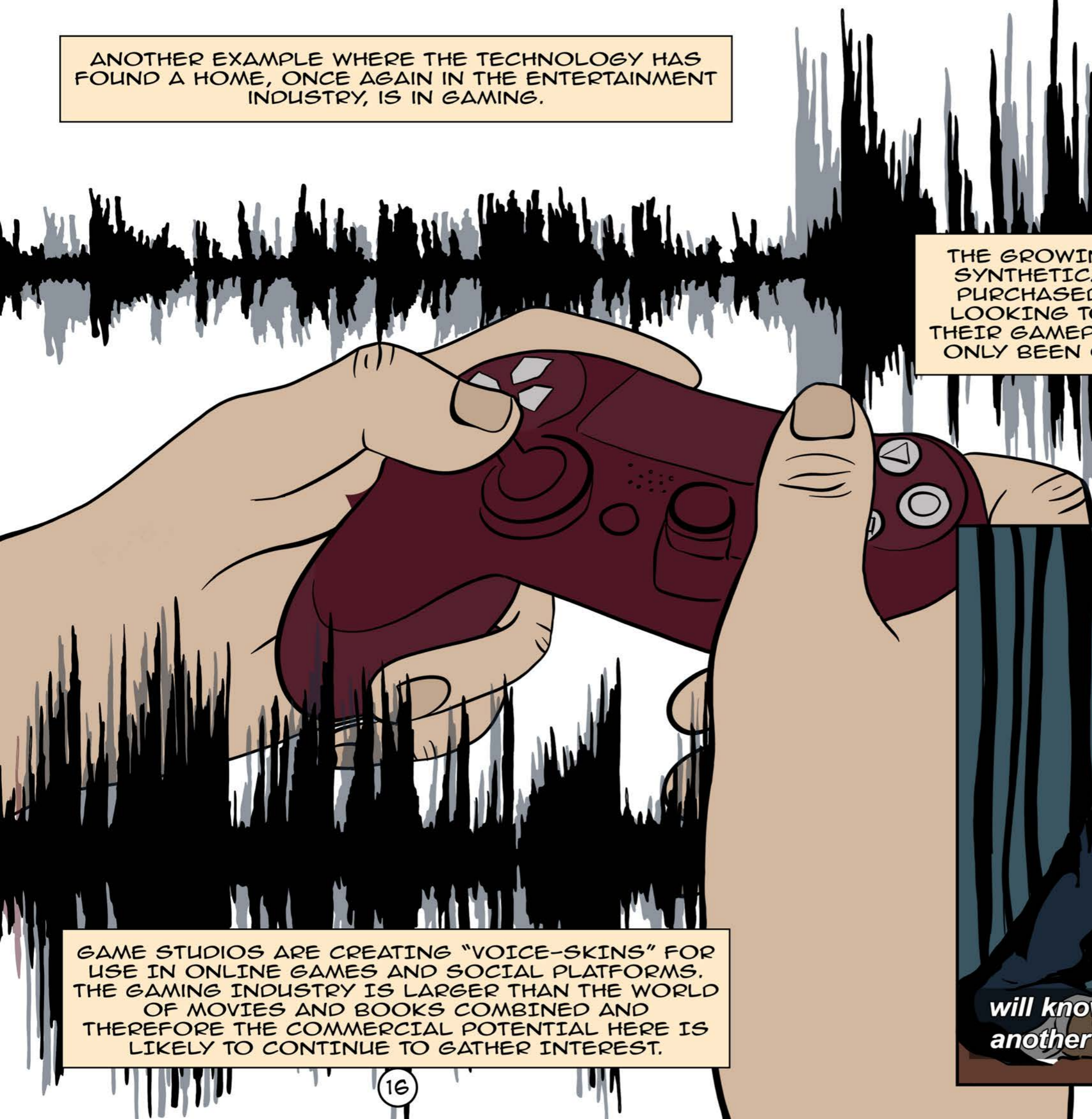
THIS IS EXCITING TECHNOLOGY FOR HOLLYWOOD BECAUSE IT ALLOWS FOR POSSIBILITIES LIKE RECREATING HISTORICAL VIDEOS SUCH AS PRESIDENT KENNEDY SPEAKING DURING THE CUBAN MISSILE CRISIS BUT USING AN ALTERNATIVE SCRIPT. MANY STUDIO EXECUTIVES SEE THE TECHNOLOGY AND ITS USE BECOMING MORE PERVERSIVE IN THE COMING YEARS.

DISNEY RELEASED A SIGNIFICANT PAPER IN 2020 WHICH DETAILS A NEW ALGORITHM THAT IS ABLE TO ACHIEVE SIGNIFICANTLY BETTER QUALITY SYNTHETIC VIDEO OUTPUTS FOR HIGH-RESOLUTION VIDEOS. WITH THE DAWN OF HIGHER RESOLUTION TELEVISION SETS, THIS WILL BECOME EVEN MORE IMPORTANT AS THE MINUTIAE OF FACES IS MORE VISIBLE AND LOW FIDELITY ALTERATIONS MAY NOT PROVIDE FOR AS COMPELLING OF AN ENTERTAINMENT EXPERIENCE.



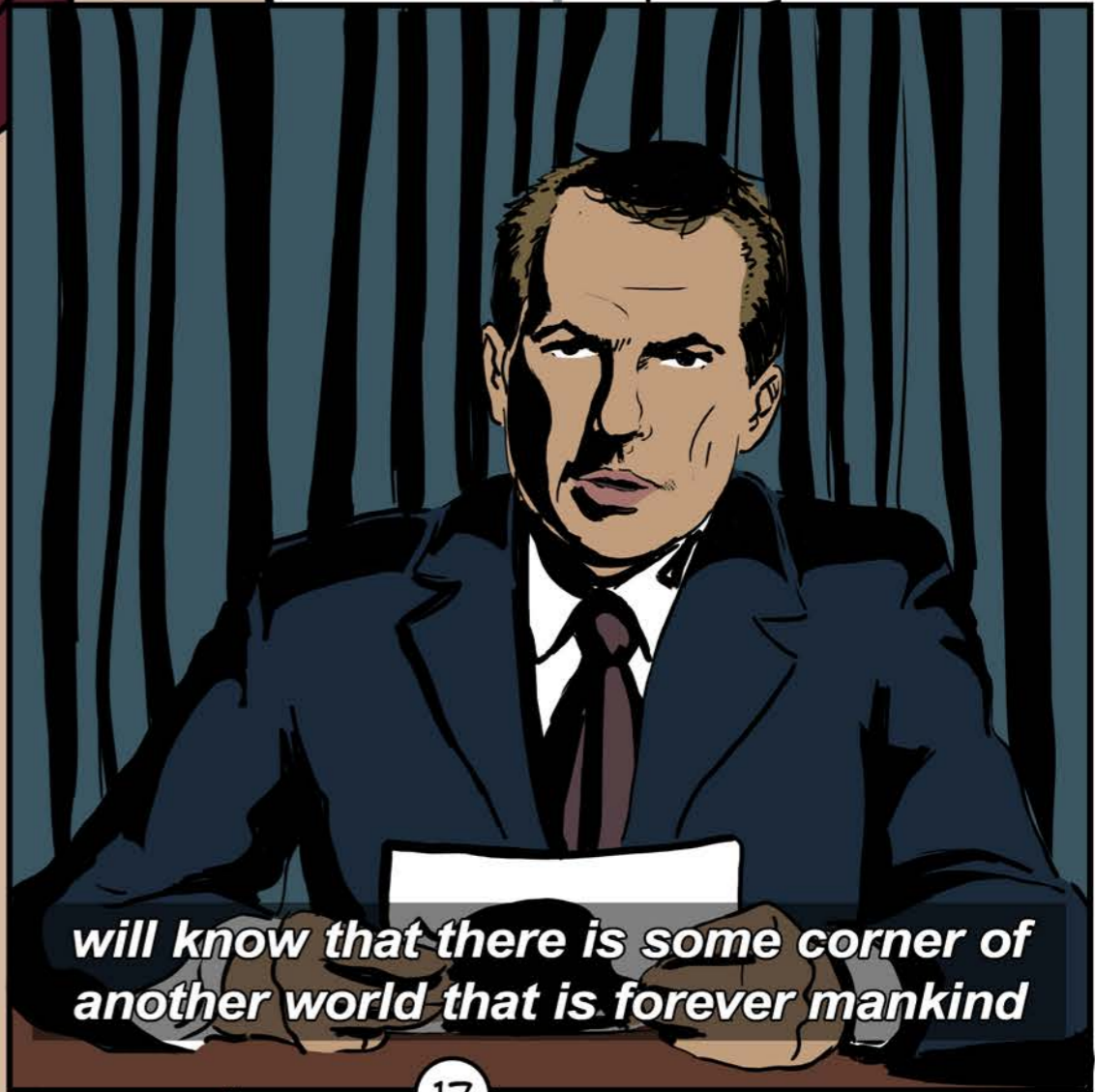
*for every human being who looks up
at the moon in the nights to come*

ANOTHER EXAMPLE WHERE THE TECHNOLOGY HAS FOUND A HOME, ONCE AGAIN IN THE ENTERTAINMENT INDUSTRY, IS IN GAMING.



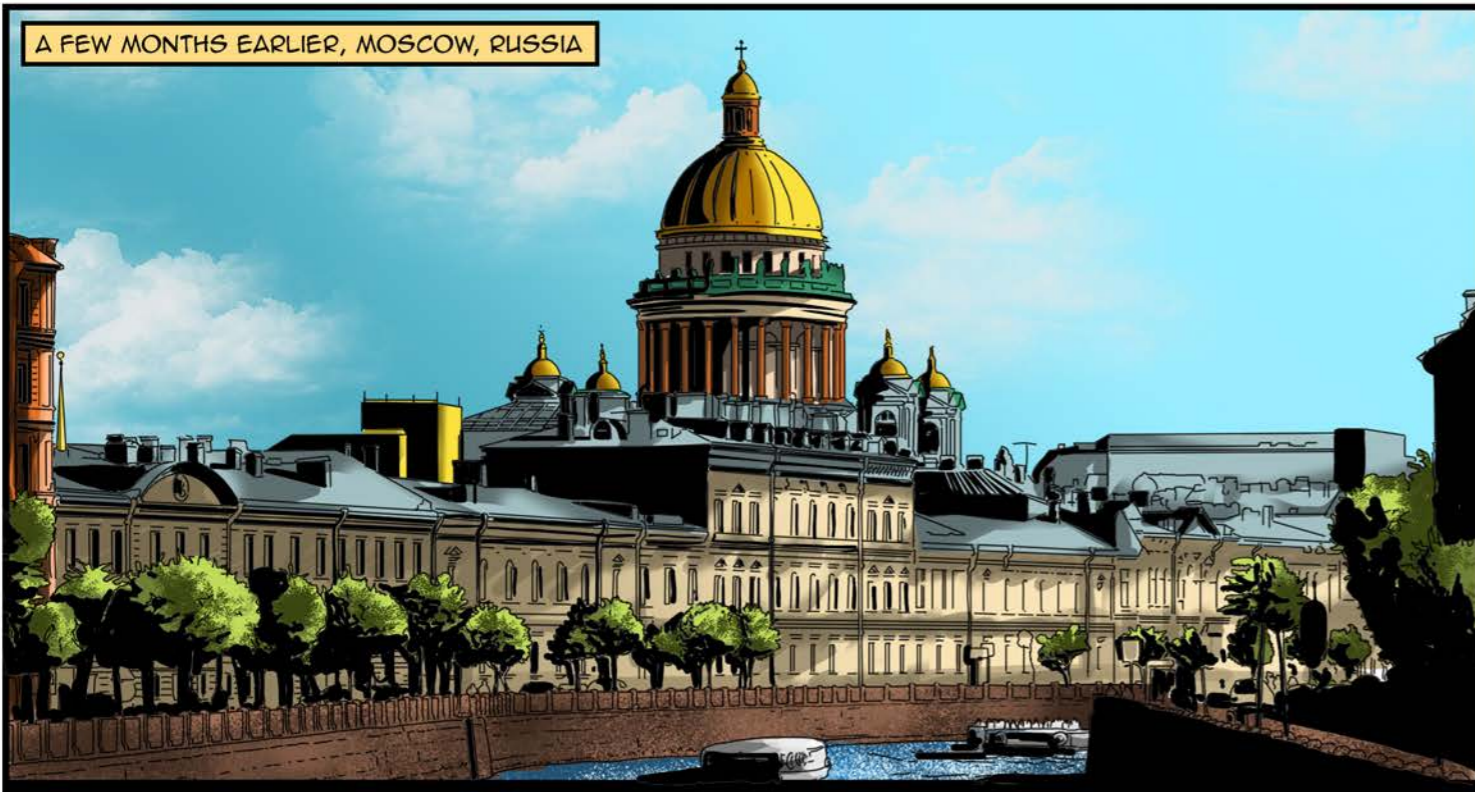
THE GROWING INVENTORY OF ARTIFICIAL OR SYNTHETICALLY GENERATED VOICES CAN BE PURCHASED BY GAMING STUDIOS THAT ARE LOOKING TO OFFER A LEVEL OF REALISM IN THEIR GAMEPLAY THAT PREVIOUSLY COULD HAVE ONLY BEEN OFFERED BY REAL VOICE ACTORS.

GAME STUDIOS ARE CREATING "VOICE-SKINS" FOR USE IN ONLINE GAMES AND SOCIAL PLATFORMS. THE GAMING INDUSTRY IS LARGER THAN THE WORLD OF MOVIES AND BOOKS COMBINED AND THEREFORE THE COMMERCIAL POTENTIAL HERE IS LIKELY TO CONTINUE TO GATHER INTEREST.



will know that there is some corner of another world that is forever mankind

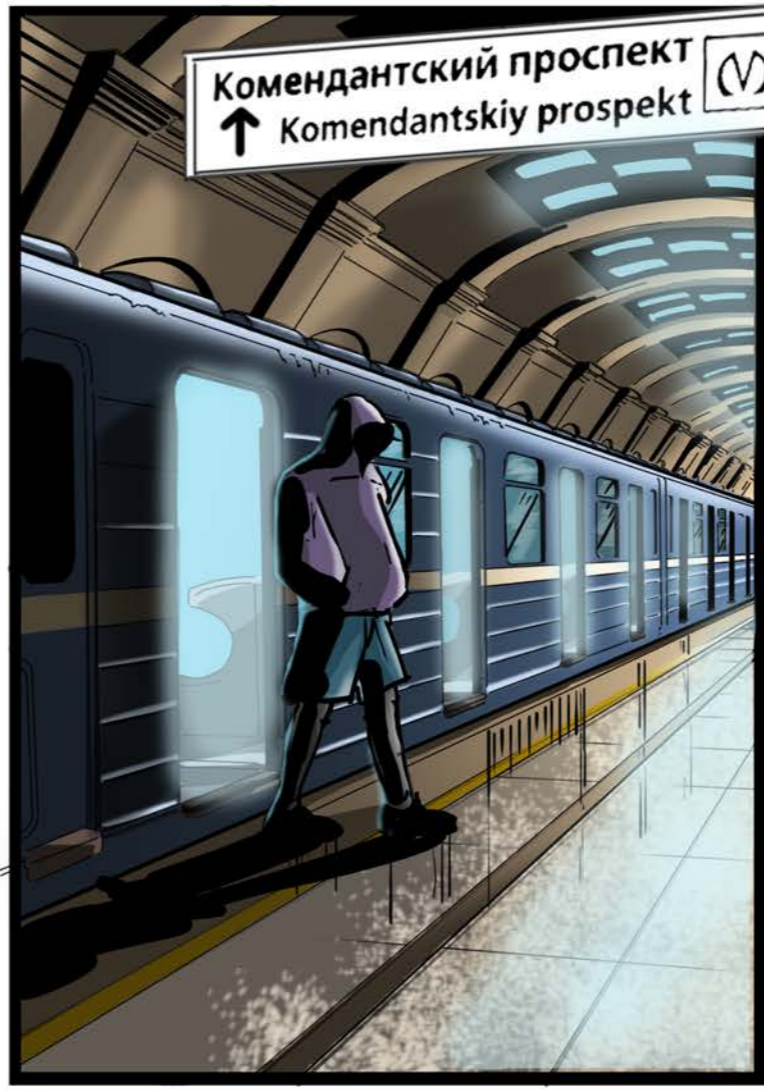
A FEW MONTHS EARLIER, MOSCOW, RUSSIA



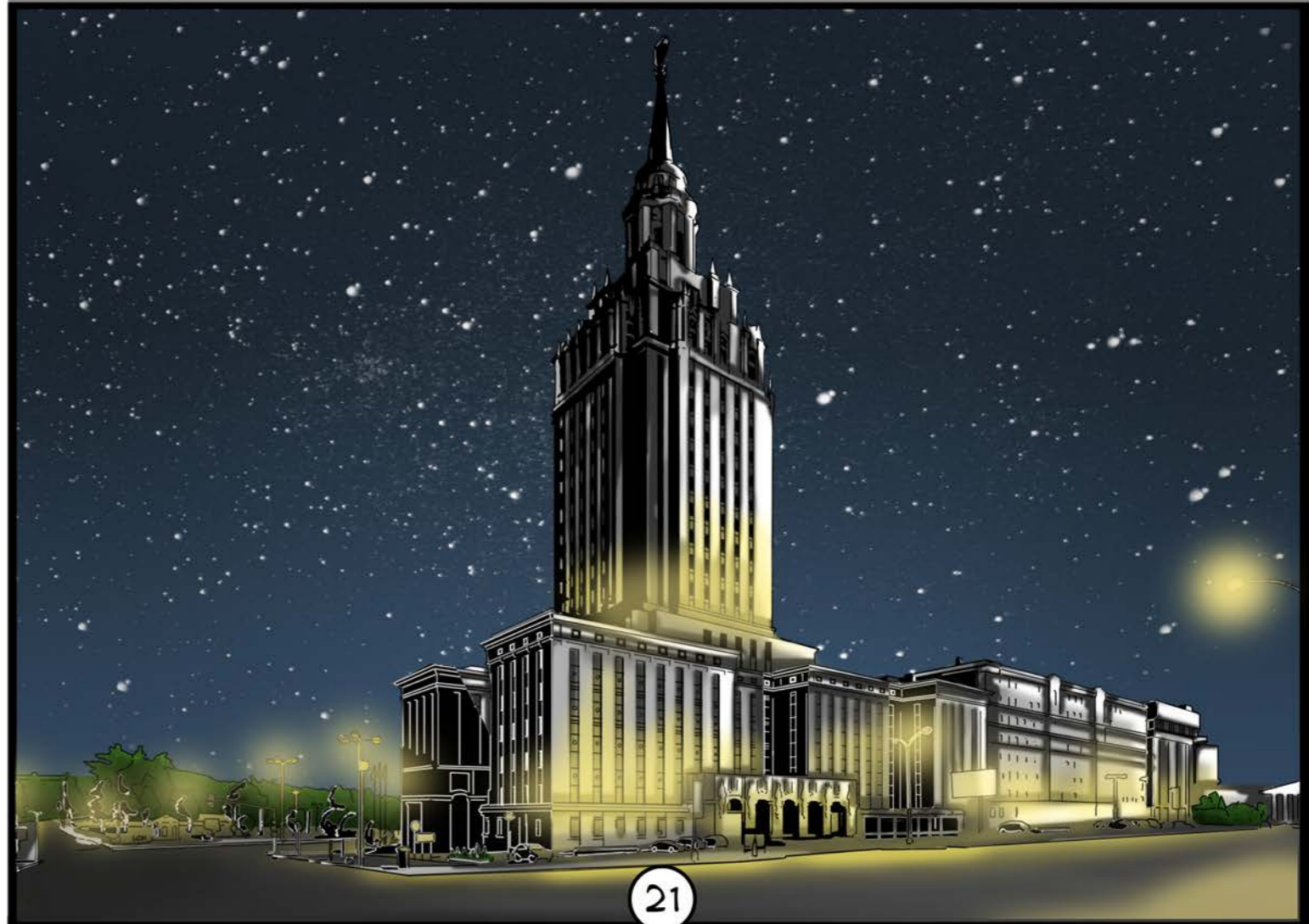
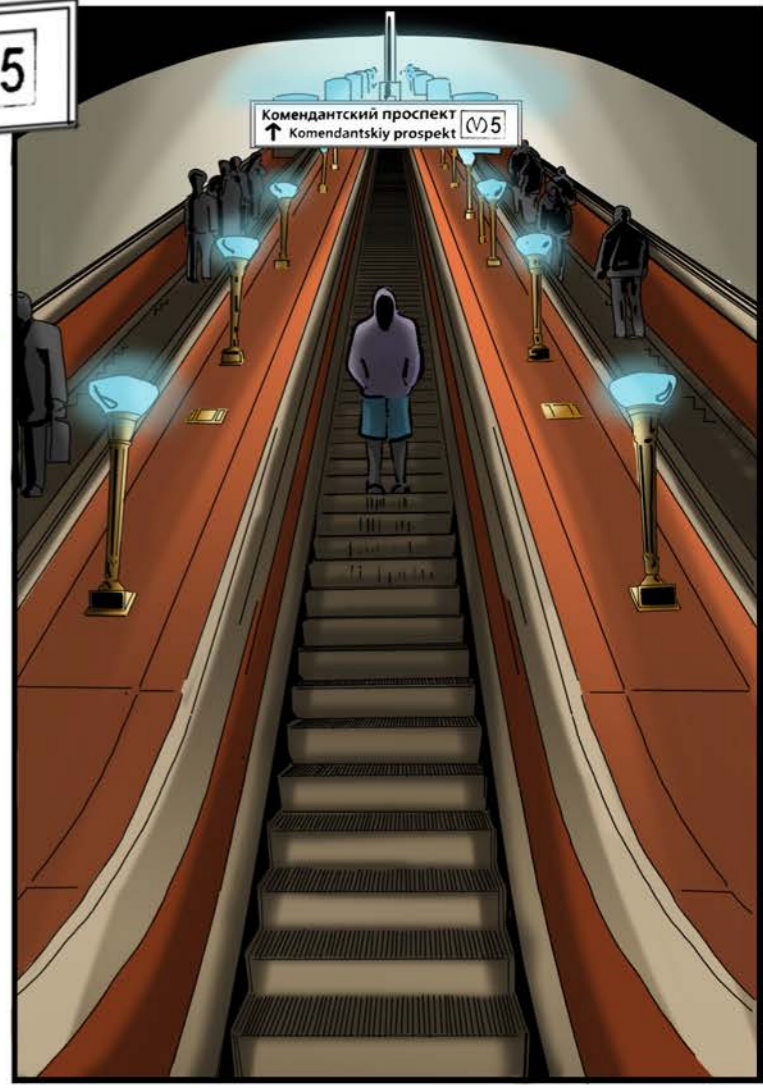
LENINGRADSKAYA STATION

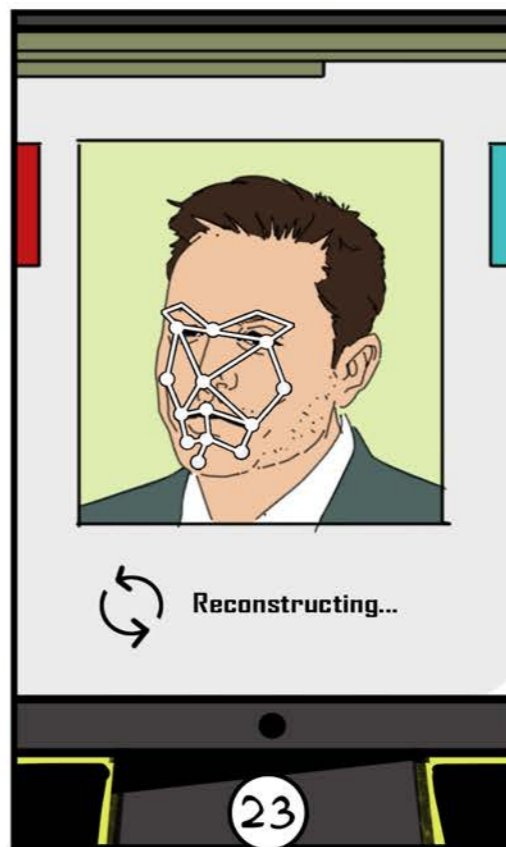
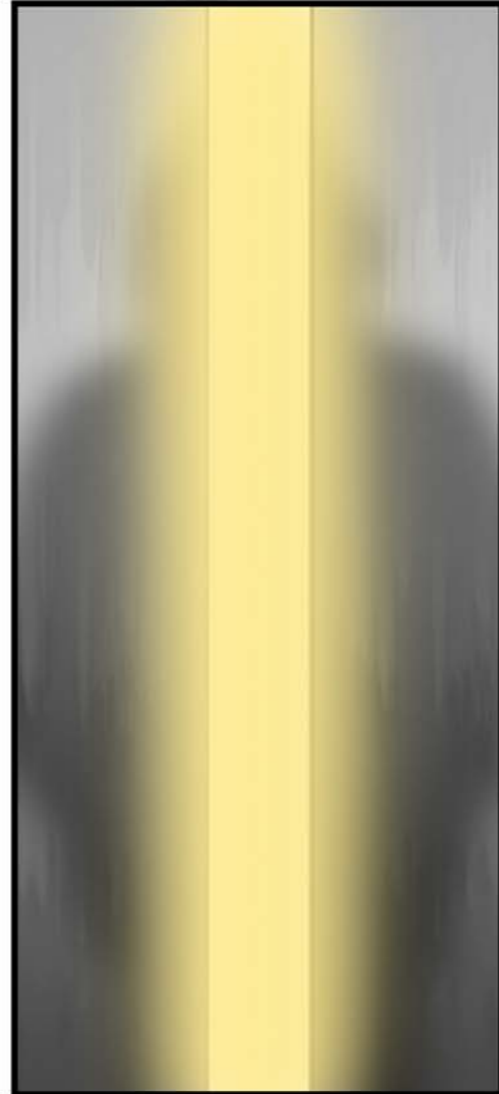
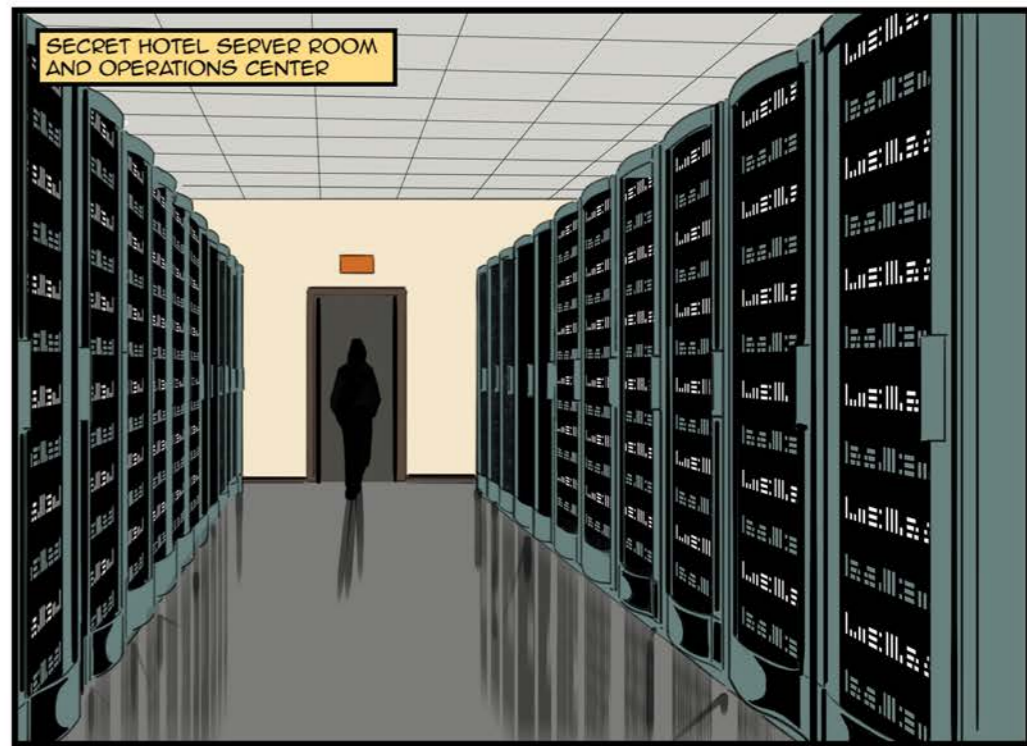


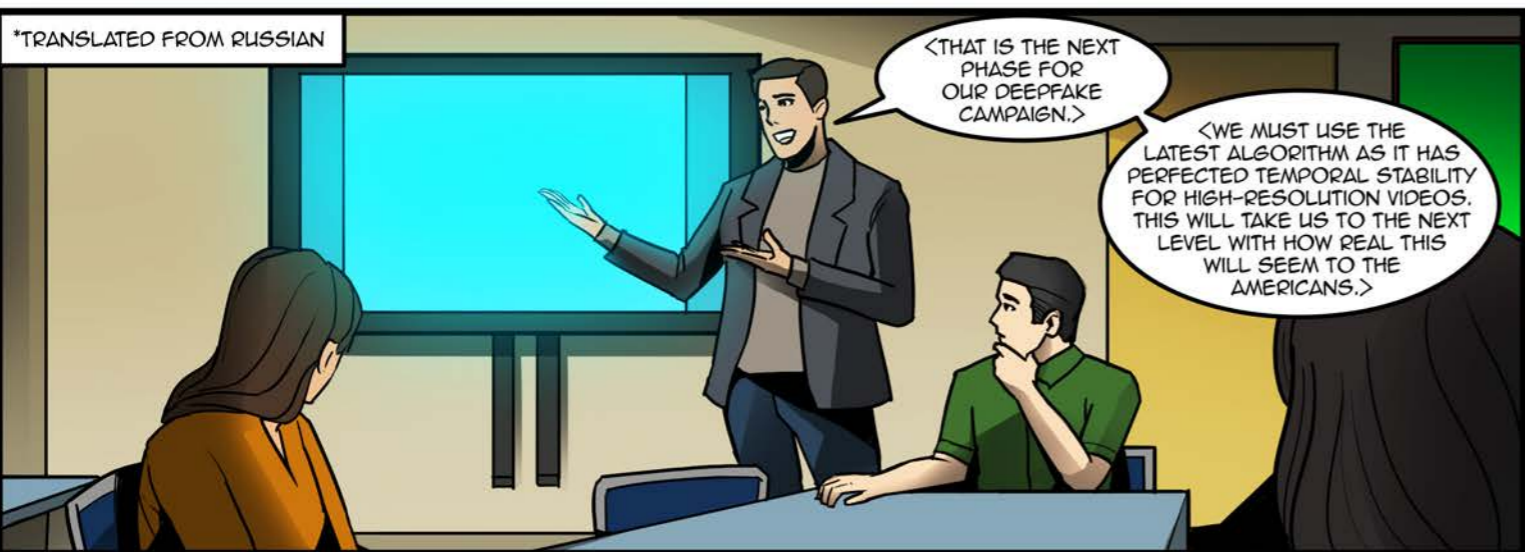
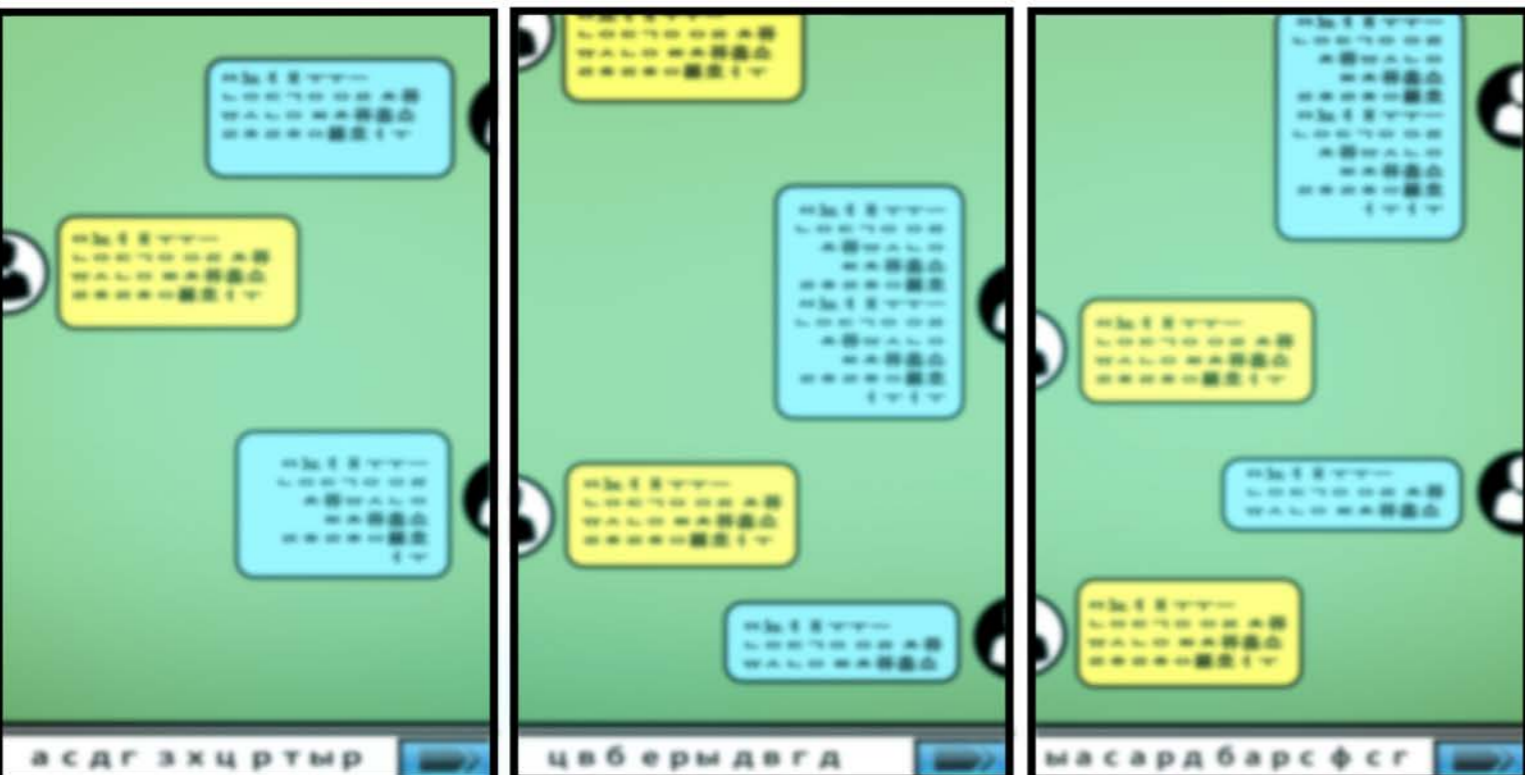
Комендантский проспект
↑ Komendantskiy prospekt (M) 5



Комендантский проспект
↑ Komendantskiy prospekt (M) 5







*TRANSLATED FROM RUSSIAN

<THAT IS THE NEXT PHASE FOR OUR DEEPPFAKE CAMPAIGN.>

<WE MUST USE THE LATEST ALGORITHM AS IT HAS PERFECTED TEMPORAL STABILITY FOR HIGH-RESOLUTION VIDEOS. THIS WILL TAKE US TO THE NEXT LEVEL WITH HOW REAL THIS WILL SEEM TO THE AMERICANS.>



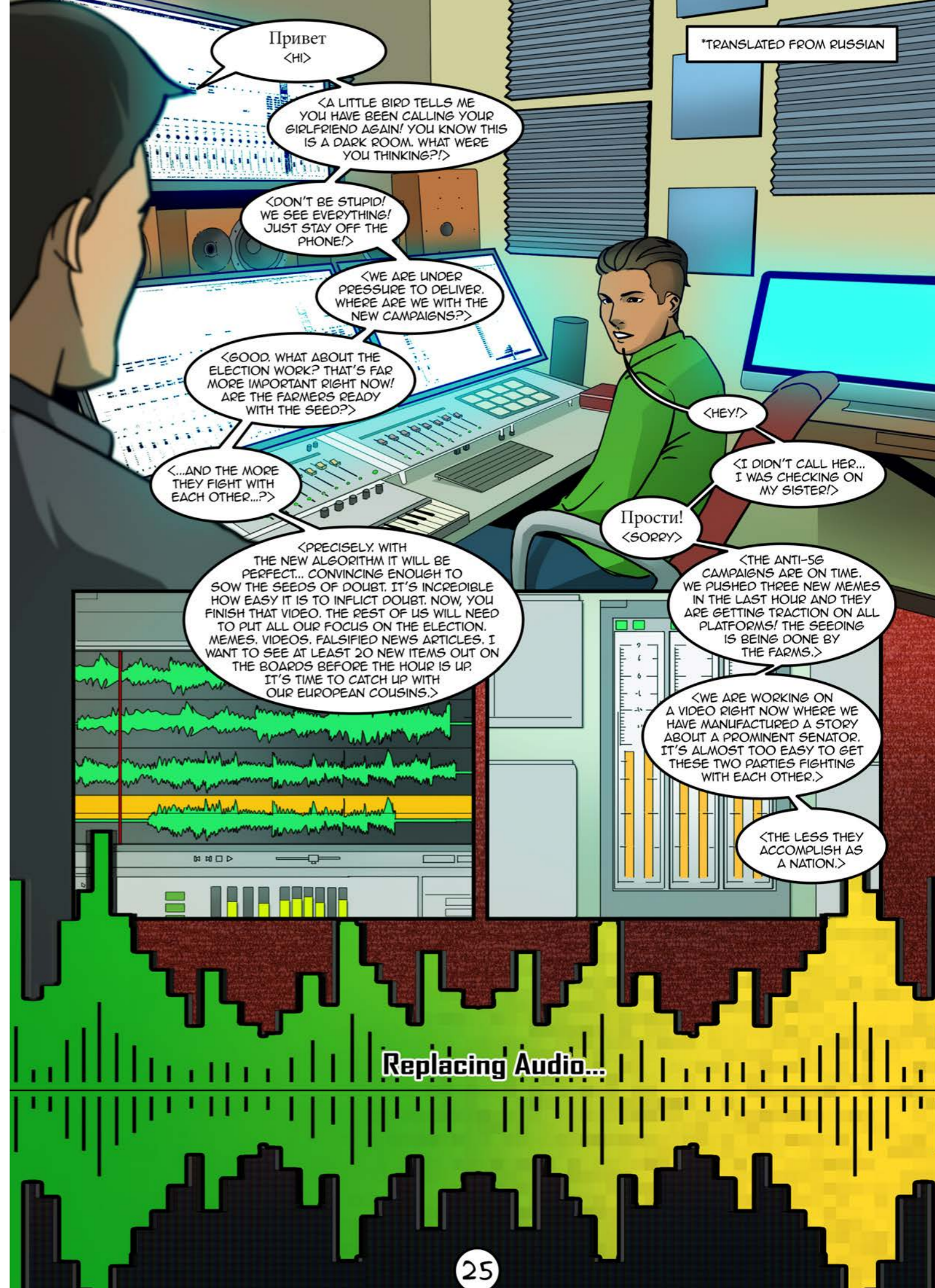
<THAT'S COOL. ARE WE THE FIRST TO DO THIS?>

<WE ARE ONLY THE SECOND TEAM IN THE WORLD TO HAVE PERFECTED THE ALGO THANKS TO THE GOOD WORK OF ZERO HERE! WE HAVE FULLY AUTOMATIC NEURAL FACE SWAPPING IN IMAGES AND VIDEOS! AND AT A MEGAPIXEL LEVEL!>

<THE LEADERSHIP WANTS RESULTS! NOW, IF YOU WILL EXCUSE ME, I NEED TO CHECK ON THE PRODUCTION MYSELF.>

АУДИО СТУДИЯ

<AUDIO STUDIO>



*TRANSLATED FROM RUSSIAN

Привет <HI>

<A LITTLE BIRD TELLS ME YOU HAVE BEEN CALLING YOUR GIRLFRIEND AGAIN! YOU KNOW THIS IS A DARK ROOM. WHAT WERE YOU THINKING?!>

<DON'T BE STUPID! WE SEE EVERYTHING! JUST STAY OFF THE PHONE!>

<WE ARE UNDER PRESSURE TO DELIVER. WHERE ARE WE WITH THE NEW CAMPAIGNS?>

<GOOD. WHAT ABOUT THE ELECTION WORK? THAT'S FAR MORE IMPORTANT RIGHT NOW! ARE THE FARMERS READY WITH THE SEED?>

<...AND THE MORE THEY FIGHT WITH EACH OTHER...?>

<HEY!>

<I DIDN'T CALL HER... I WAS CHECKING ON MY SISTER!>

Прости! <SORRY>

<PRECISELY. WITH THE NEW ALGORITHM IT WILL BE PERFECT... CONVINCING ENOUGH TO SOW THE SEEDS OF DOUBT. IT'S INCREDIBLE HOW EASY IT IS TO INFLICT DOUBT. NOW, YOU FINISH THAT VIDEO. THE REST OF US WILL NEED TO PUT ALL OUR FOCUS ON THE ELECTION. MEMES. VIDEOS. FALSIFIED NEWS ARTICLES. I WANT TO SEE AT LEAST 20 NEW ITEMS OUT ON THE BOARDS BEFORE THE HOUR IS UP. IT'S TIME TO CATCH UP WITH OUR EUROPEAN COUSINS.>

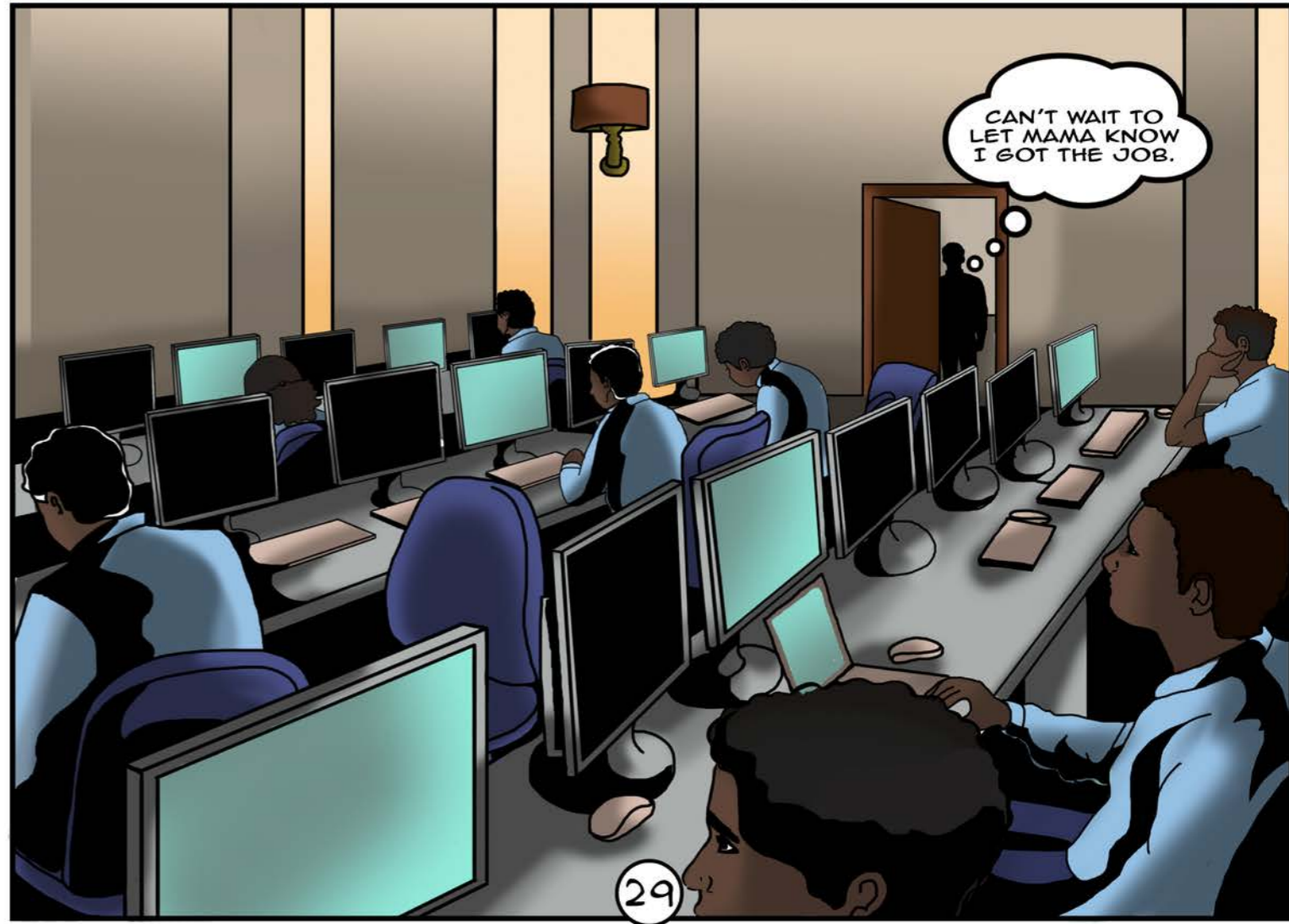
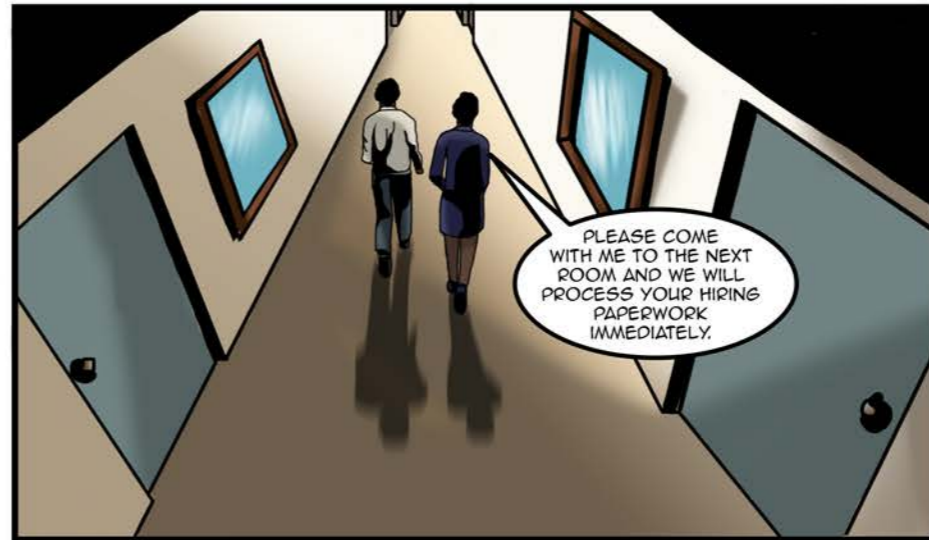
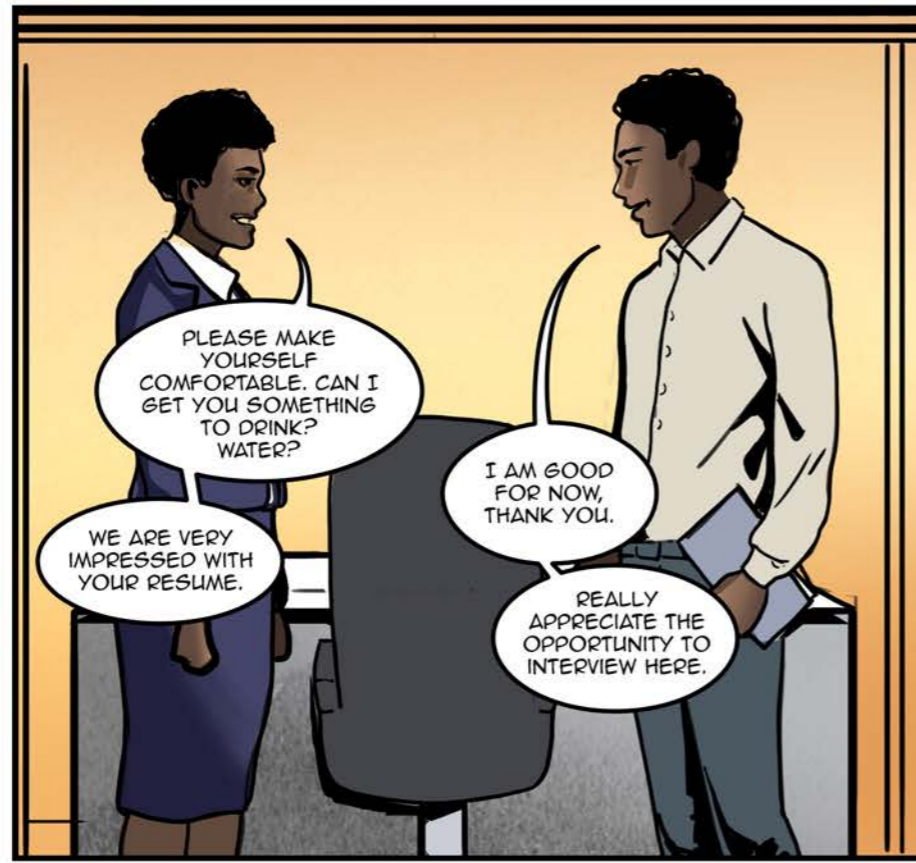
<THE ANTI-S6 CAMPAIGNS ARE ON TIME. WE PUSHED THREE NEW MEMES IN THE LAST HOUR AND THEY ARE GETTING TRACTION ON ALL PLATFORMS! THE SEEDING IS BEING DONE BY THE FARMS.>

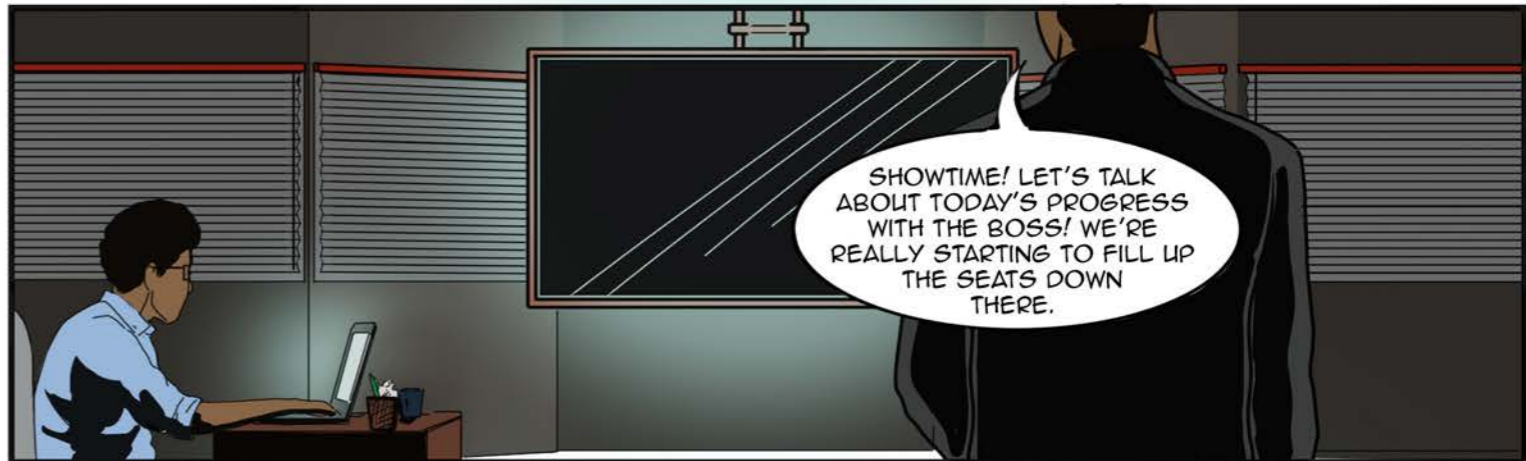
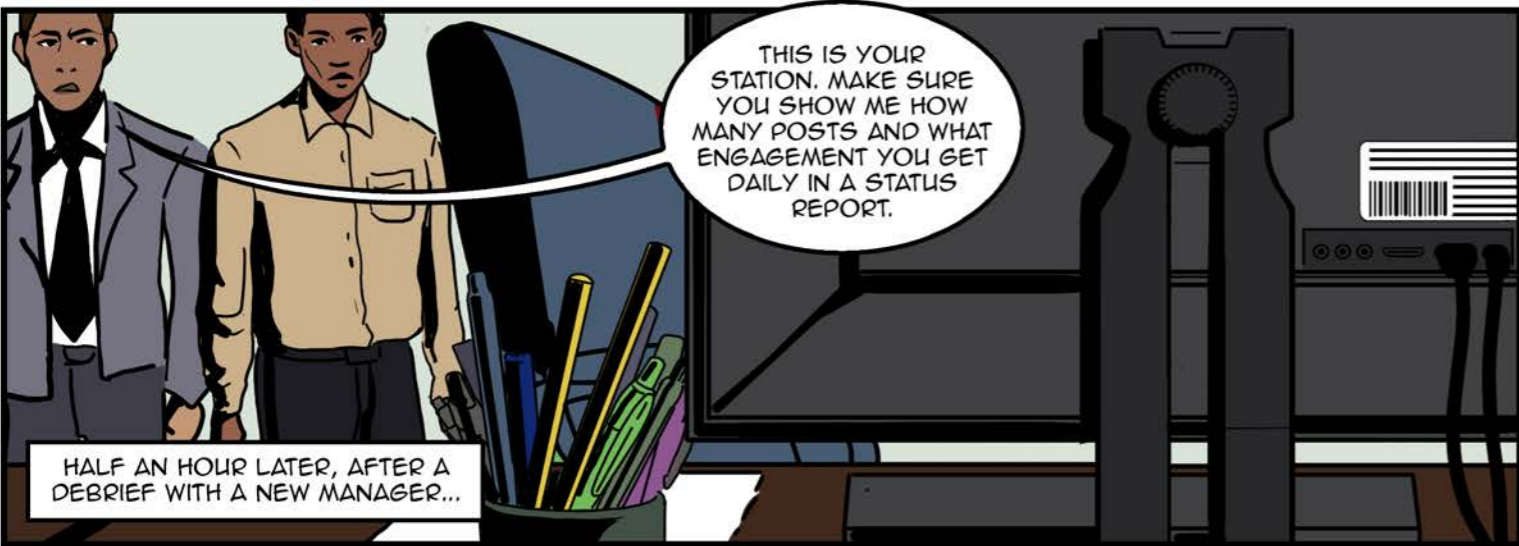
<WE ARE WORKING ON A VIDEO RIGHT NOW WHERE WE HAVE MANUFACTURED A STORY ABOUT A PROMINENT SENATOR. IT'S ALMOST TOO EASY TO GET THESE TWO PARTIES FIGHTING WITH EACH OTHER.>

<THE LESS THEY ACCOMPLISH AS A NATION.>

Replacing Audio...







A FEW HOURS LATER AT AN IMPORTANT INVESTOR MEETING

I JUST WANT TO APOLOGIZE ON BEHALF OF THE NUNEWZ FOUNDERS. THEY ARE BOTH CURRENTLY INDISPOSED.

AS THE CFO, I WILL BE LEADING THIS DISCUSSION TOGETHER WITH MY COLLEAGUE, MR. BADU.

SO, DO YOU THINK YOU CAN INVEST USD \$100,000? THAT WILL BUY YOU 10% OF OUR COMPANY BASED ON THE VALUATION.

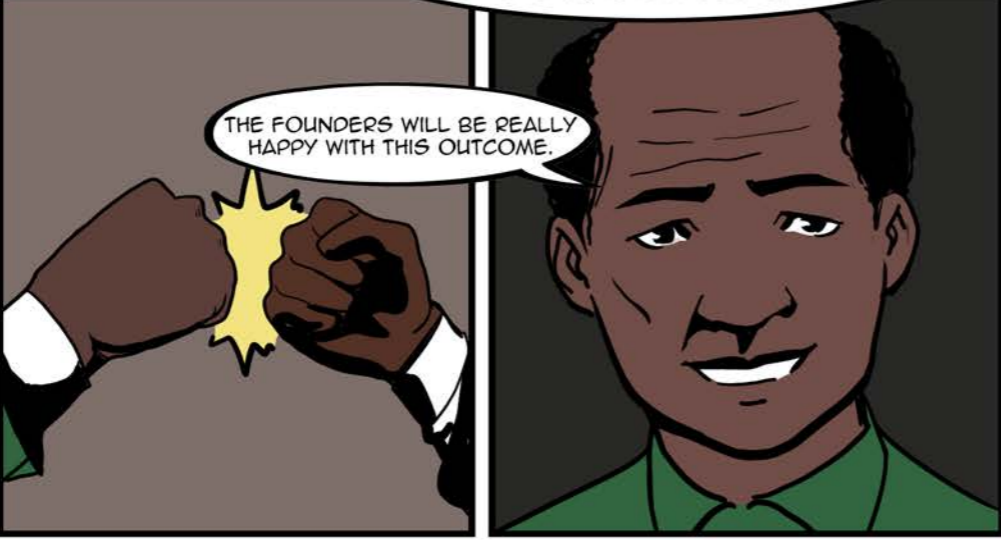
I DON'T KNOW ABOUT THAT NUMBER... I HAVE INVESTED IN SIMILAR COMPANIES IN EUROPE AND ASIA, BUT THEY HAD BEEN UP AND RUNNING FOR FAR LONGER THAN THREE MONTHS.

THE FIGURES ARE FAIR. YOU KNOW THAT WE ARE TURNING OVER TENS OF THOUSANDS IN PROFITS EVERY MONTH. IT'S A SURE THING.

ADMITTEDLY, YOUR RETURNS ARE EXTRAORDINARY FOR A STARTUP UNDER 6 MONTHS AND THIS WOULD GIVE US A FOOHOLD HERE IN AFRICA, WHICH IS SO FULL OF OPPORTUNITY FOR US. OKAY, LET'S MOVE AHEAD.

THE FOUNDERS WILL BE REALLY HAPPY WITH THIS OUTCOME.

RIGHT THIS WAY, SIR, AND WE WILL START THE PAPERWORK FOR YOUR INVESTMENT.



AND HE SAID THAT HE HAD OTHER FRIENDS WHO MAY ALSO WANT TO INVEST!

YES. I AM JUST GLAD HE DIDN'T DIG TOO DEEP INTO THE ACTUAL WORK WE DO.





TWO TACOS PLEASE!



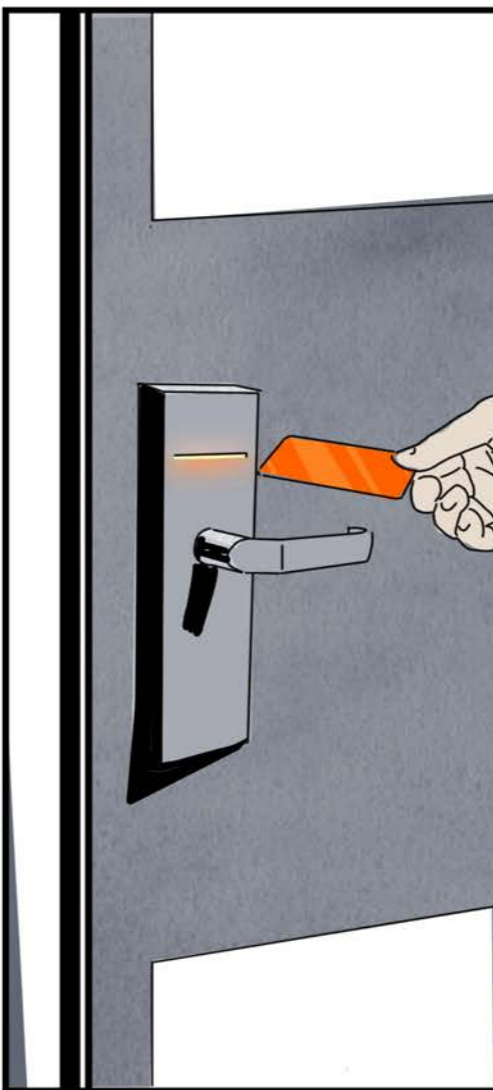
IT ALMOST FEELS LIKE AUSTIN DURING SOUTH BY!

SO GREAT THAT WE HAVE THE FOOD TRUCK SCENE HERE!

WELL... I WOULDN'T GO THAT FAR!



ICHTECH OFFICES



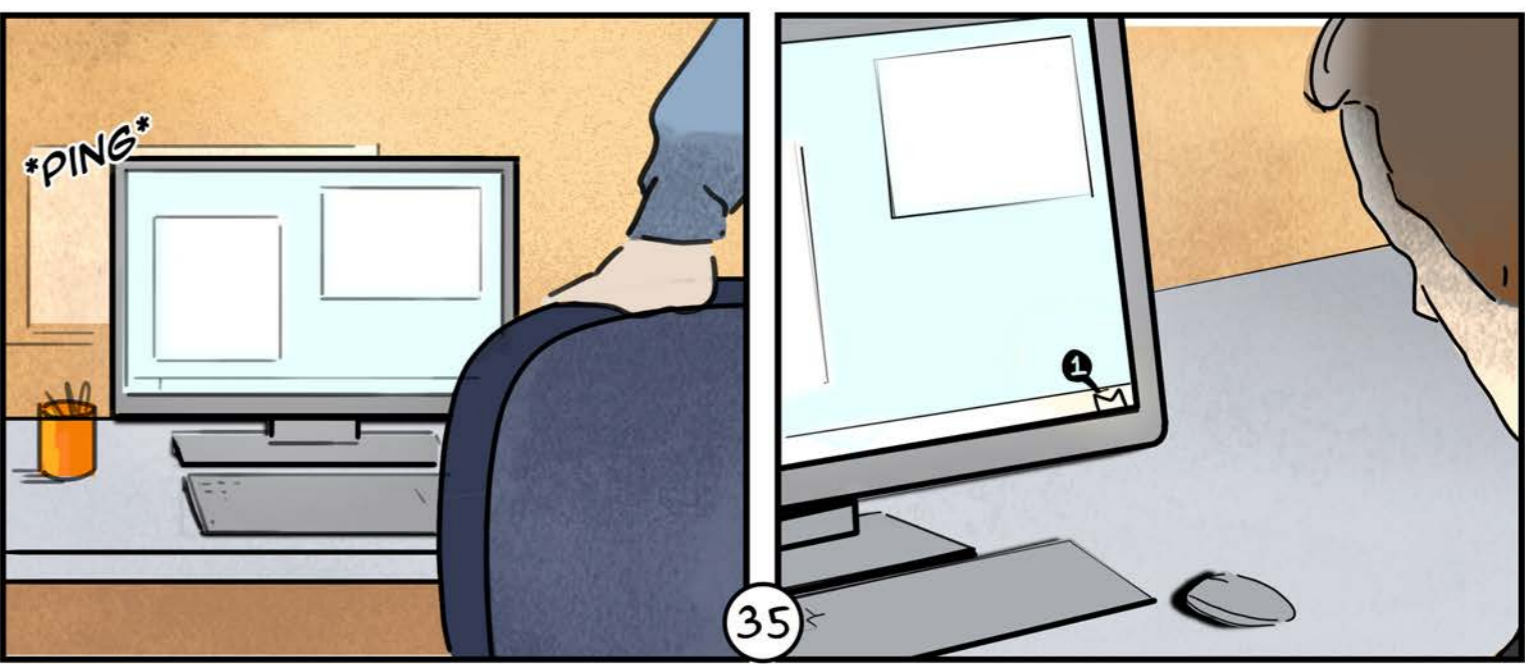
SO HOW ARE YOUR NUMBERS THIS WEEK?

THINK I NEED TO BOOST MY POSTS MORE...NOT QUITE HITTING THE BIG TIME YET! COMPARED TO SOME OF THE OTHERS WHO HAVE A MILLION LIKES! HOW DO THEY DO THAT?

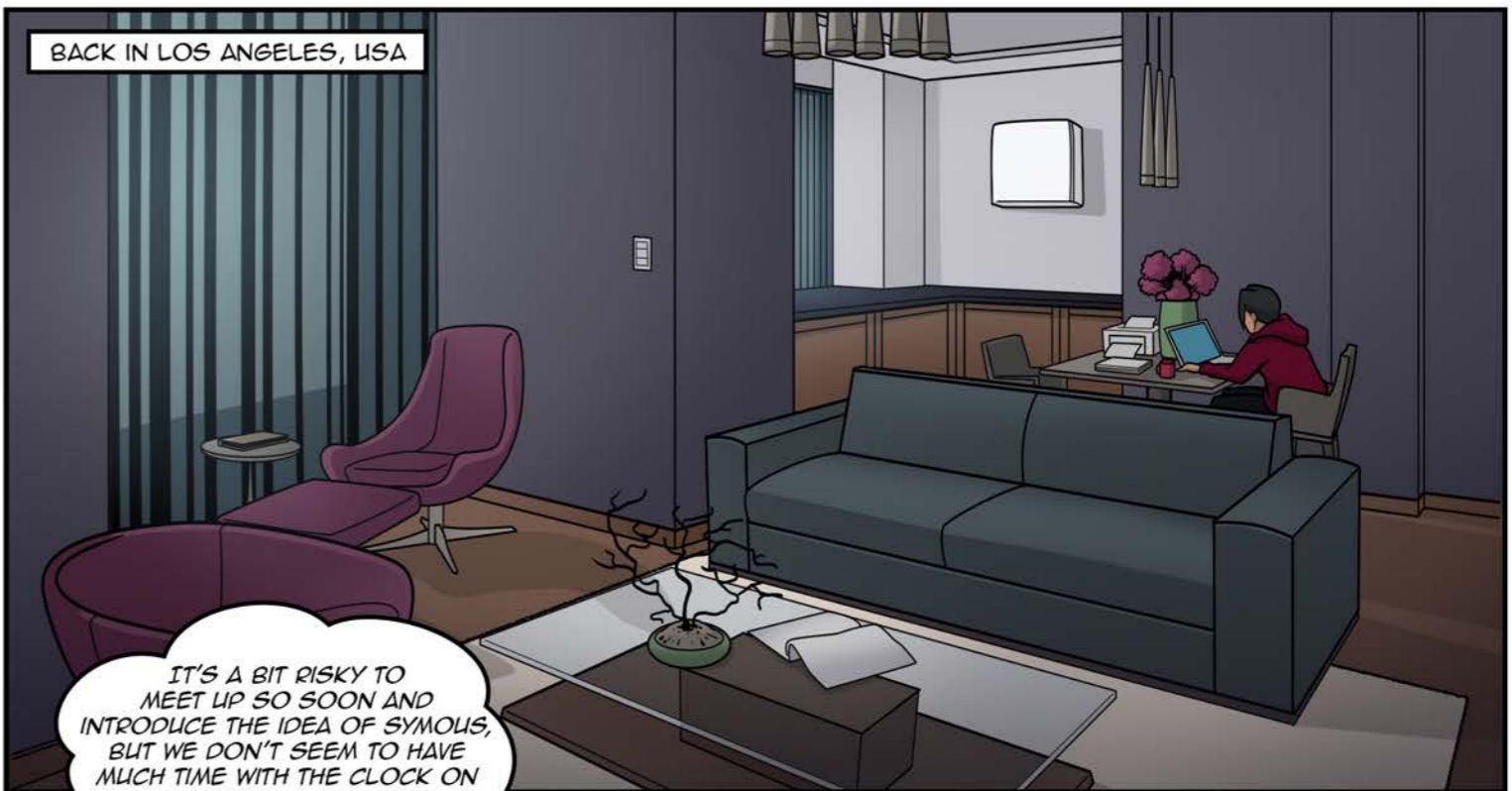
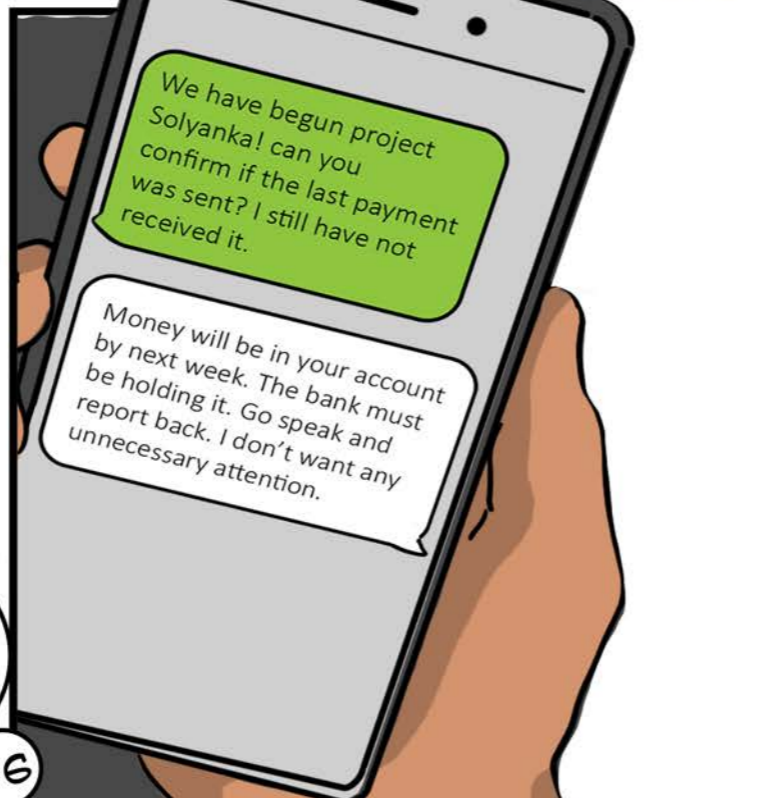
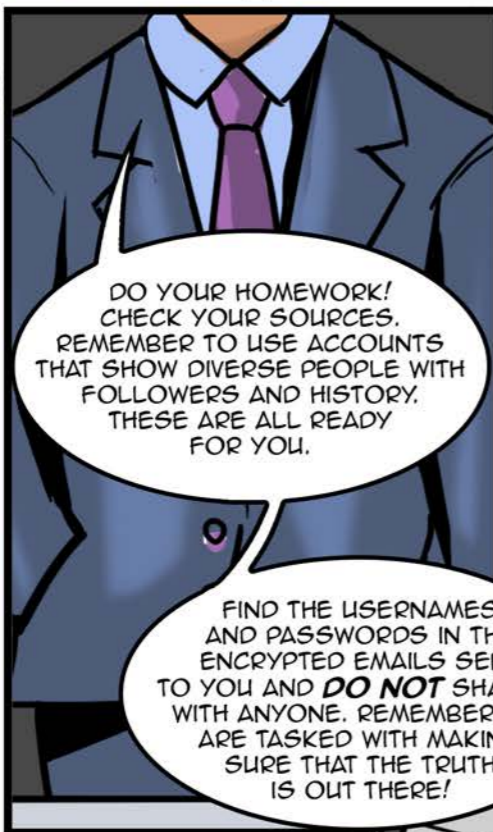
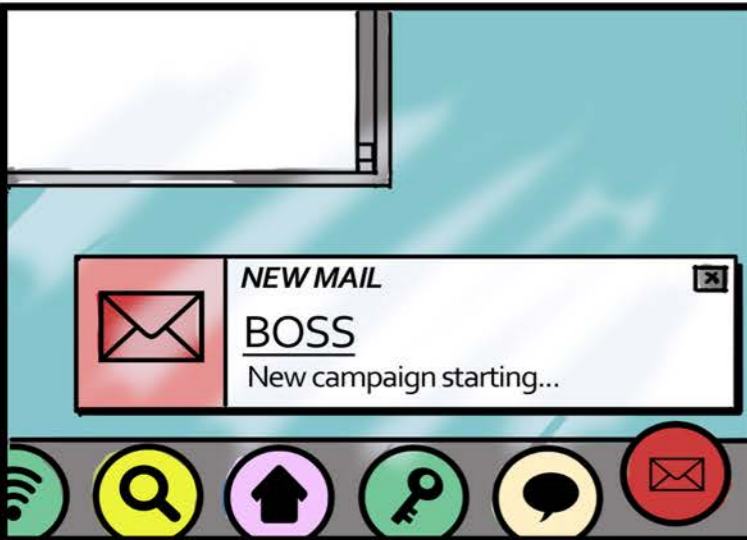


DON'T WORRY, IT'S ABOUT A/B TESTING THE COPY AND THE CREATIVE ASSETS USED IN THE AD, AS IN COMPARE WHAT WORKS BETTER: IMAGE A OR B. OR AGAIN COPY A OR B. HAPPY TO SHARE SOME OF MY TOP TIPS. I STILL TOP THE LEADERBOARD WITH MY ANTI-S6 VACCINE POST WITH TWO MILLION ENGAGEMENTS!

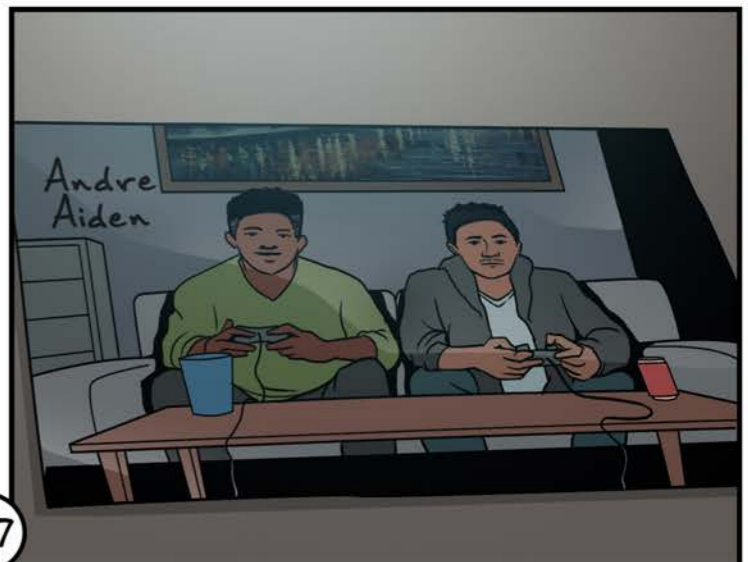
GETTING THE FEELING I SHOULD HAVE STAYED IN THE WORLD OF BIG AGENCIES!

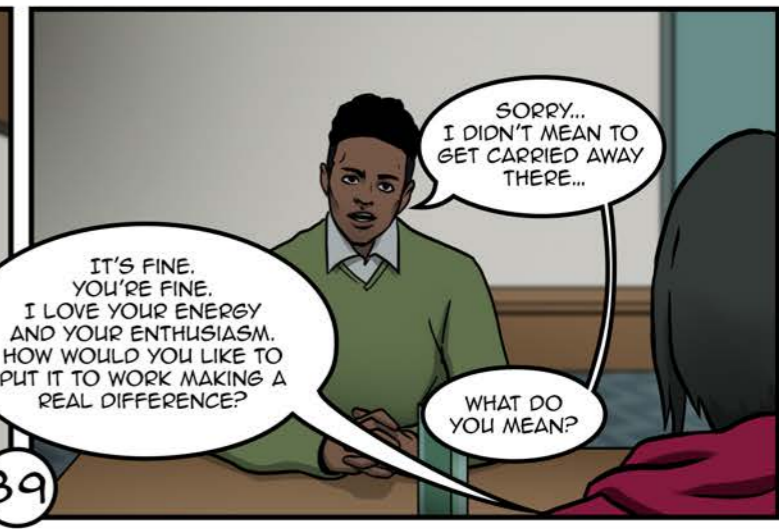
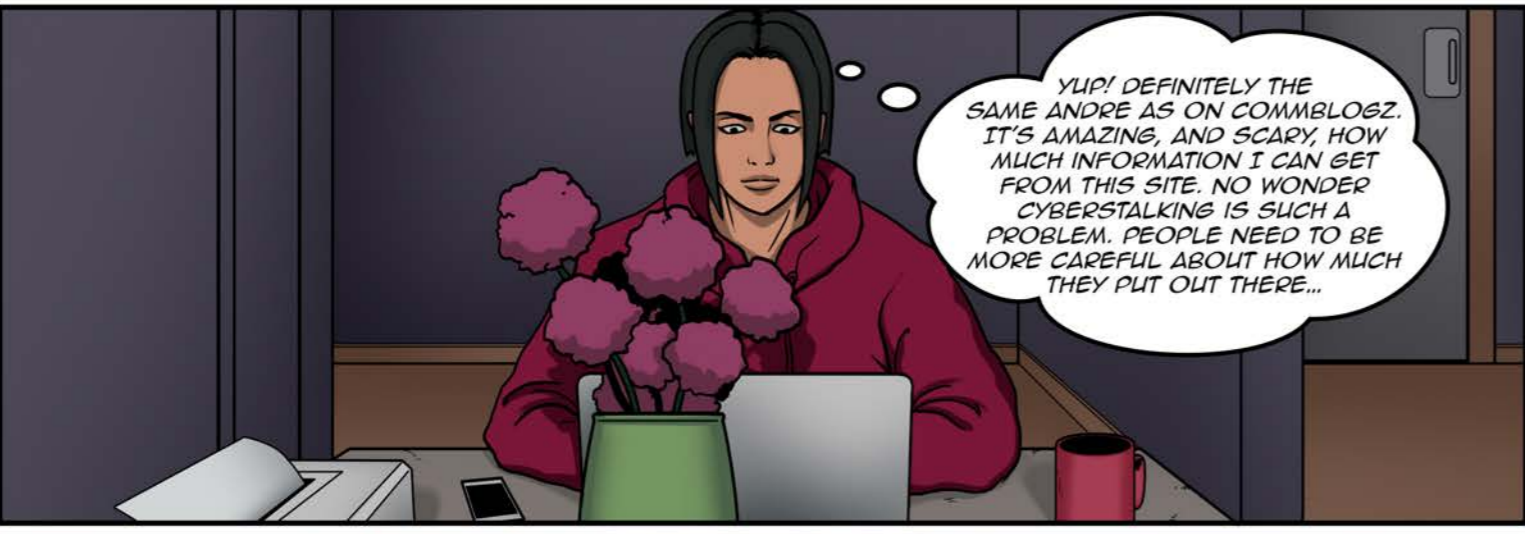
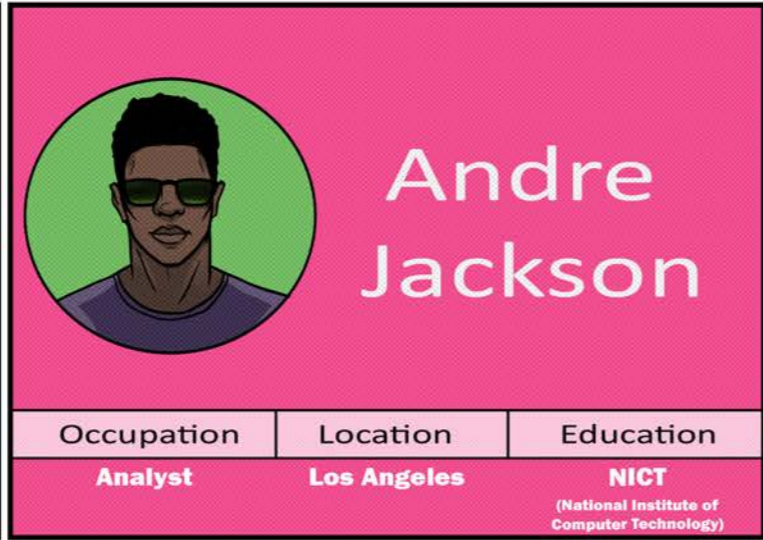


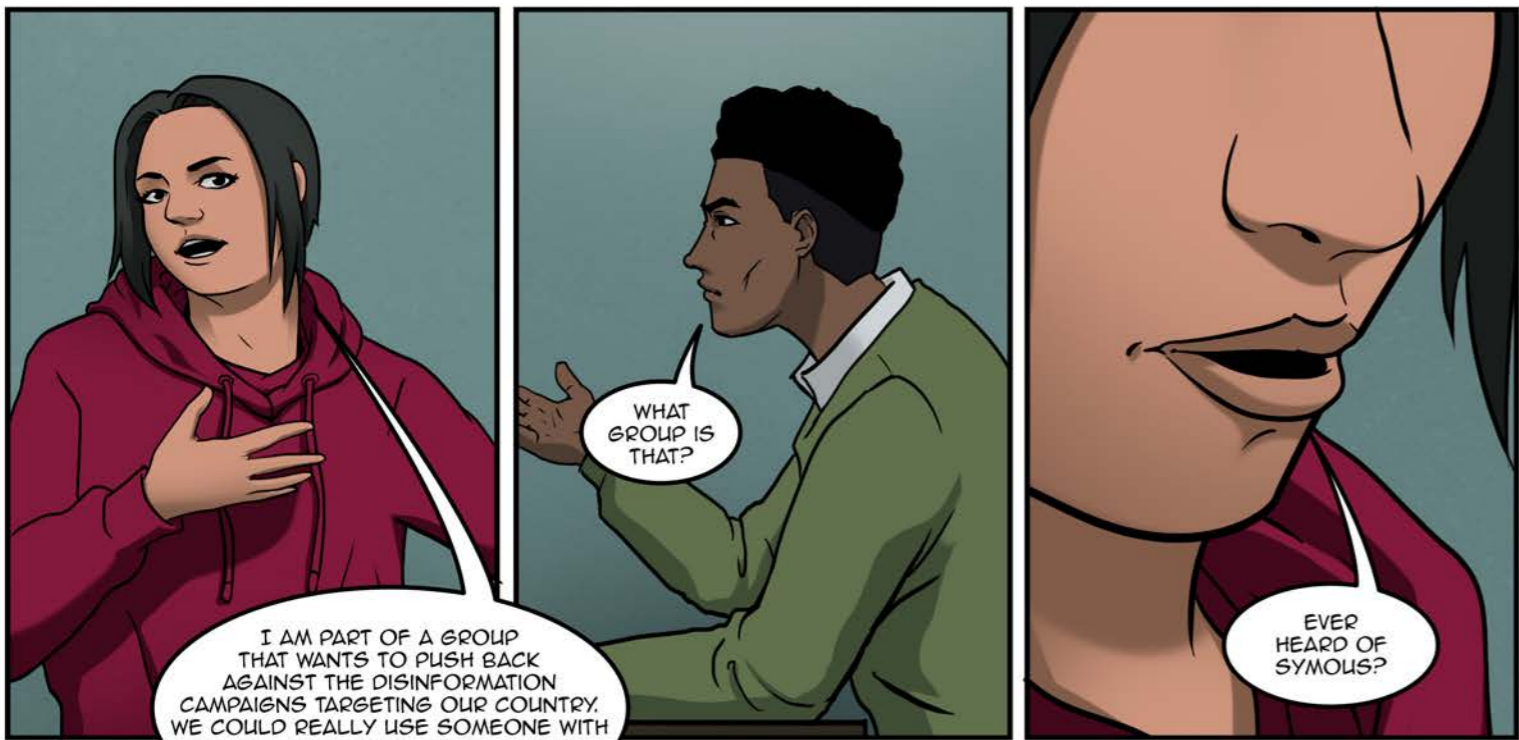
PING



- Rachel: This Single0 guy is really getting on my nerves!
- Andre: I'm seriously worried about how real it looks and the potential for this to go viral.
- Rachel: I can't believe that no one else is calling these bogus videos out!
- Andre: All bogus! None of that is true...
- Rachel: I'm going to report this to the social media platform!
- Andre: Let's hope they take the videos down.







I AM PART OF A GROUP THAT WANTS TO PUSH BACK AGAINST THE DISINFORMATION CAMPAIGNS TARGETING OUR COUNTRY. WE COULD REALLY USE SOMEONE WITH YOUR KNOWLEDGE, CONNECTIONS, AND ATTITUDE.

WHAT GROUP IS THAT?

EVER HEARD OF SYMOUS?



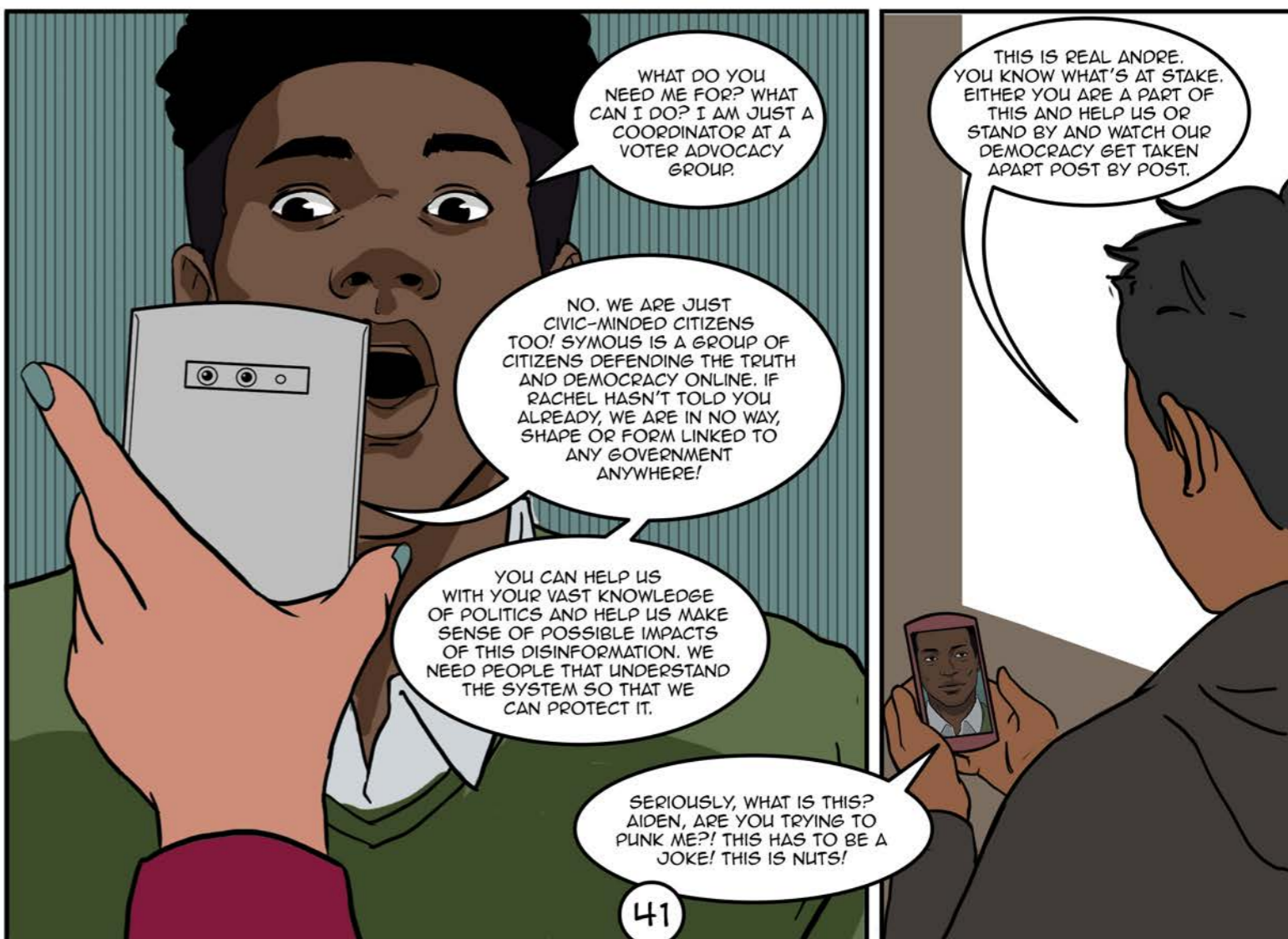
WOW! UM. WOW! THAT'S A LOT TO DIGEST.

I WILL NEED SOME TIME TO THINK ABOUT THAT...



SORRY ANDRE... DIDN'T MEAN TO SNEAK THIS UP ON YOU! BUT THIS IS A LEGIT OPERATION AND WE HAVE AN OPPORTUNITY TO MAKE A DIFFERENCE.

ALSO, YOUR OLD FRIEND AIDEN PATEL FROM NICT IS ALREADY A MEMBER. HE COULDN'T STOP RAVING ABOUT YOU! WE HAVE RESOURCES SO I AM NOT LOOKING FOR ANY MONEY FROM YOU. WE HAVE SIGNIFICANT BACKING.



WHAT DO YOU NEED ME FOR? WHAT CAN I DO? I AM JUST A COORDINATOR AT A VOTER ADVOCACY GROUP.

NO. WE ARE JUST CIVIC-MINDED CITIZENS TOO! SYMOUS IS A GROUP OF CITIZENS DEFENDING THE TRUTH AND DEMOCRACY ONLINE. IF RACHEL HASN'T TOLD YOU ALREADY, WE ARE IN NO WAY, SHAPE OR FORM LINKED TO ANY GOVERNMENT ANYWHERE!

YOU CAN HELP US WITH YOUR VAST KNOWLEDGE OF POLITICS AND HELP US MAKE SENSE OF POSSIBLE IMPACTS OF THIS DISINFORMATION. WE NEED PEOPLE THAT UNDERSTAND THE SYSTEM SO THAT WE CAN PROTECT IT.

SERIOUSLY, WHAT IS THIS? AIDEN, ARE YOU TRYING TO PUNK ME?! THIS HAS TO BE A JOKE! THIS IS NUTS!

THIS IS REAL ANDRE. YOU KNOW WHAT'S AT STAKE. EITHER YOU ARE A PART OF THIS AND HELP US OR STAND BY AND WATCH OUR DEMOCRACY GET TAKEN APART POST BY POST.

HALF AN HOUR LATER...



ALRIGHT, I'M IN!
THIS BETTER BE
LEGIT, AIDEN.



DO YOU HAVE A
VALID PASSPORT?



JUST A LITTLE
FURTHER THAN THAT.



I HOPE YOU LIKE KARTOFFELPUFFER?

TOTALLY. WHAT'S
THE PLAN?
WE ARE GOING ON
A LITTLE TRIP
WHERE ARE WE
HEADED? CANADA?



42



HAH!
NICE ONE!



HUH? IS THAT
SOME KIND OF
EUROPEAN
DANCE?

FOOD, ACTUALLY.
POTATO PANCAKES TO BE
PRECISE, BUT GOOD GUESS.
IT'S A SPECIALITY IN
EUROPE



MEET ME AT
VAN NUYS AIRPORT IN
FOUR HOURS. WE NEED
TO MAKE TRACKS ASAP.
PACK FOR A COUPLE
OF DAYS! LET'S
GO GO GO!

SEE YOU FOLKS
THERE. I'LL BE ON THE 3
PM FLIGHT OUT OF LOGAN!
I HEAR YOU GUYS WILL BE
TAKING THE GULFSTREAM
FROM LA!

43

VAN NUYS AIRPORT, LOS ANGELES



DID I MENTION THAT WE NEED TO SWING THROUGH WEST AFRICA ON THE WAY BACK?

WHAT!? THIS IS A BIT MUCH! WHY DO WE NEED TO GO THERE?



WELL, WE HAVE A DATE WITH SOME GOVERNMENT CONTACTS THERE.

LOOK, IF WE ARE DOING THIS, I NEED TO BE IN THE LOOP ON EVERYTHING THAT WE ARE DOING. I CAN'T KEEP ABSORBING ALL THESE SURPRISES.



THAT'S FAIR...

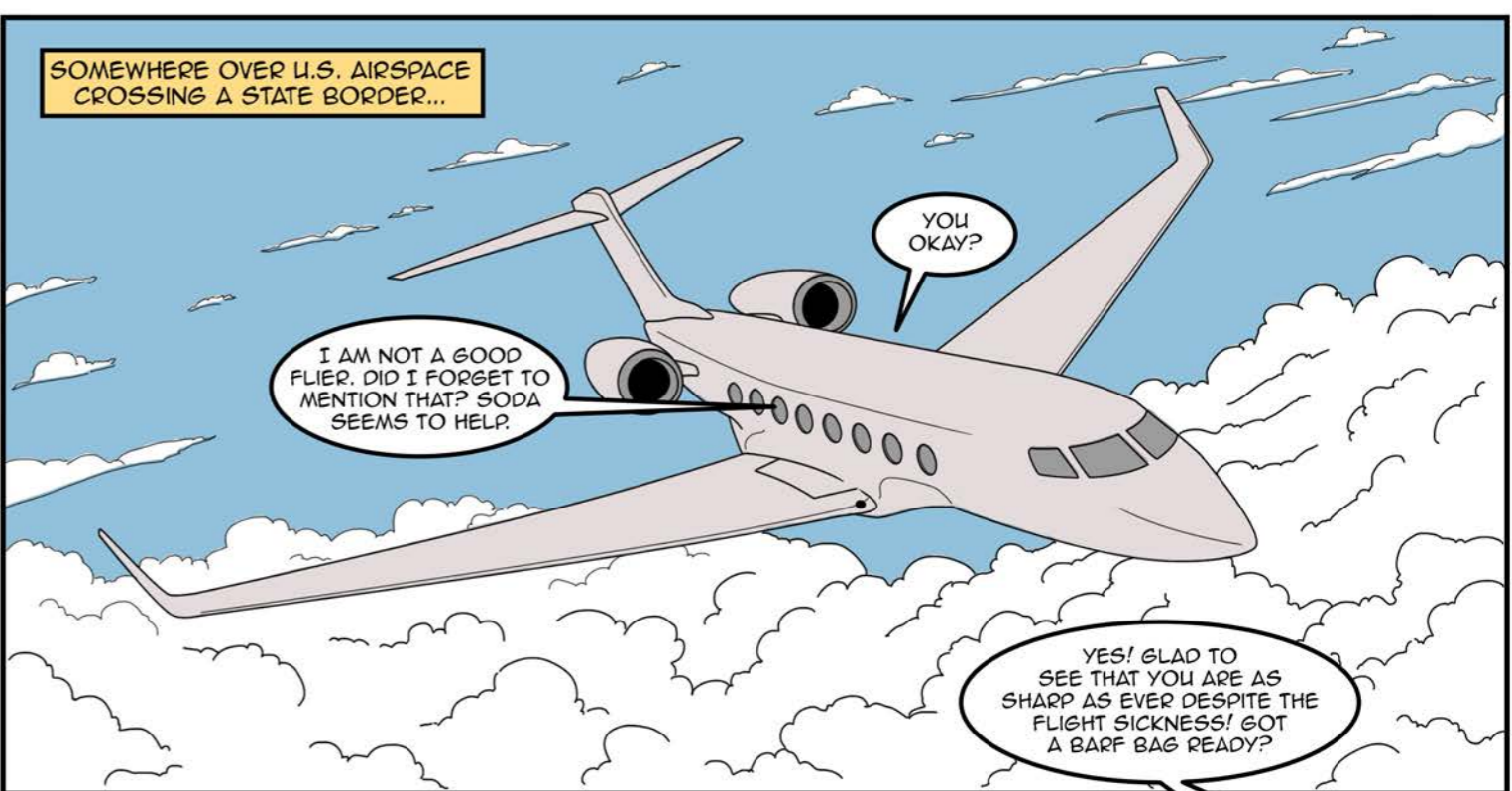


THERE'S A LOT TO COVER. I'LL FILL YOU IN OVER THE COURSE OF OUR FLIGHT.



WE ALL STRAPPED IN AND READY TO GO?

SOMEWHERE OVER U.S. AIRSPACE CROSSING A STATE BORDER...



I AM NOT A GOOD FLIER. DID I FORGET TO MENTION THAT? SODA SEEMS TO HELP.

YOU OKAY?

YES! GLAD TO SEE THAT YOU ARE AS SHARP AS EVER DESPITE THE FLIGHT SICKNESS! GOT A BARF BAG READY?



OKAY, SO YOU ARE SAYING THAT WE ARE PRETENDING TO BE INVESTORS INTERESTED IN PUTTING MONEY INTO A SOCIAL MEDIA STARTUP WHICH IS A FRONT FOR A TROLL FARM?



THE IDEA IS TO GET IN AND UNDERSTAND IF THE TEAMS THERE KNOW WHAT THEY ARE ACTUALLY DOING AND GET A FEEL FOR WHO THEY ARE COMMUNICATING WITH.



WE SUSPECT THE PLACE IS BEING RUN OUT OF MOSCOW. AND YOU REMEMBER THAT TROLL YOU WERE SO UPSET ABOUT? THE ONE WHO POSTED THE DEEPAKE? MR. ZERO... ONE OF THOSE PEOPLE IS THAT TROLL.



I THOUGHT THAT GUY WAS FROM NORTH KOREA?!



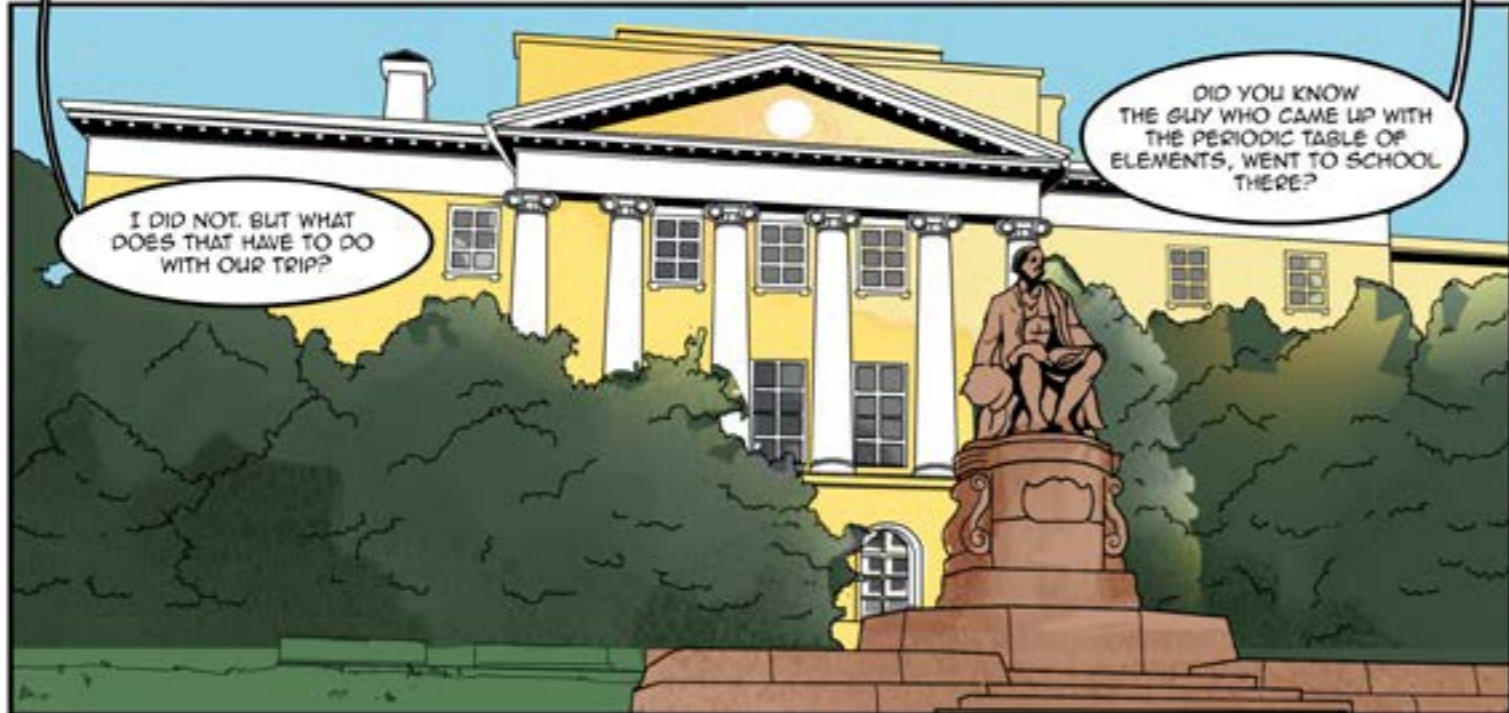
FIRST, IT MAY NOT BE A GUY. TAKE A LOOK AT ME FOR INSTANCE. PLENTY OF US ARE FEMALE HACKERS! SECOND, IT'S NEVER AS SIMPLE AS WYSIWYG (WHAT YOU SEE IS WHAT YOU GET) IN THIS SPACE.



FAIR ENOUGH. SO, YOU'RE THINKING THAT IT'S OUR FRIENDS IN MOSCOW?



ALMOST CERTAINLY, BUT THEY ARE USING A NETWORK OF TROLL FARMS ALONG WITH MORE SOPHISTICATED DEEPPFAKE TECH THAN I HAVE EVER SEEN BEFORE. OUR FIRST STOP IS COURTESY OF AN OLD CONTACT AT MOSCOW TECHNICAL UNIVERSITY.



I DID NOT. BUT WHAT DOES THAT HAVE TO DO WITH OUR TRIP?

DID YOU KNOW THE GUY WHO CAME UP WITH THE PERIODIC TABLE OF ELEMENTS, WENT TO SCHOOL THERE?



IT'S A NODE IN THE NETWORK. JUST ONE TROLL FARM AMONGST THE MANY. WE KNOW THAT THE POSTS ARE BEING SEEDD FROM THERE BUT I NEED THE LINK TO MOSCOW. UNFORTUNATELY, THEY HAVE GONE OFF-GRID ON COMMUNICATING WITH THEIR HANDLERS.



SO YOU WANT TO PLAY CODE BREAKER?

NOT QUITE. THIS MAY BE A LOT MORE BASIC THAN TRYING TO PLAY TURING. I HAVE A FEELING THAT I NEED TO GET MY HANDS ON A MANAGER'S PHONE TO SEE WHO THEY ARE CALLING. IT'S LIKELY TO BE A GURNER, HENCE THE REASON WHY WE HAVEN'T BEEN ABLE TO TRACE IT AS OF YET. AIDEN WILL PRETEND TO BE A COMPETING INVESTOR WHILE WE ARE THERE AND DISTRACT THEM WHILE I DO WHAT IS NEEDED.



ALAN TURING IS RECOGNIZED AS ONE OF THE GREATEST CODEBREAKERS TO HAVE EVER LIVED. HE HELPED PLAY AN IMPORTANT ROLE IN CRACKING THE CODE NAZIS USED DURING WW2.

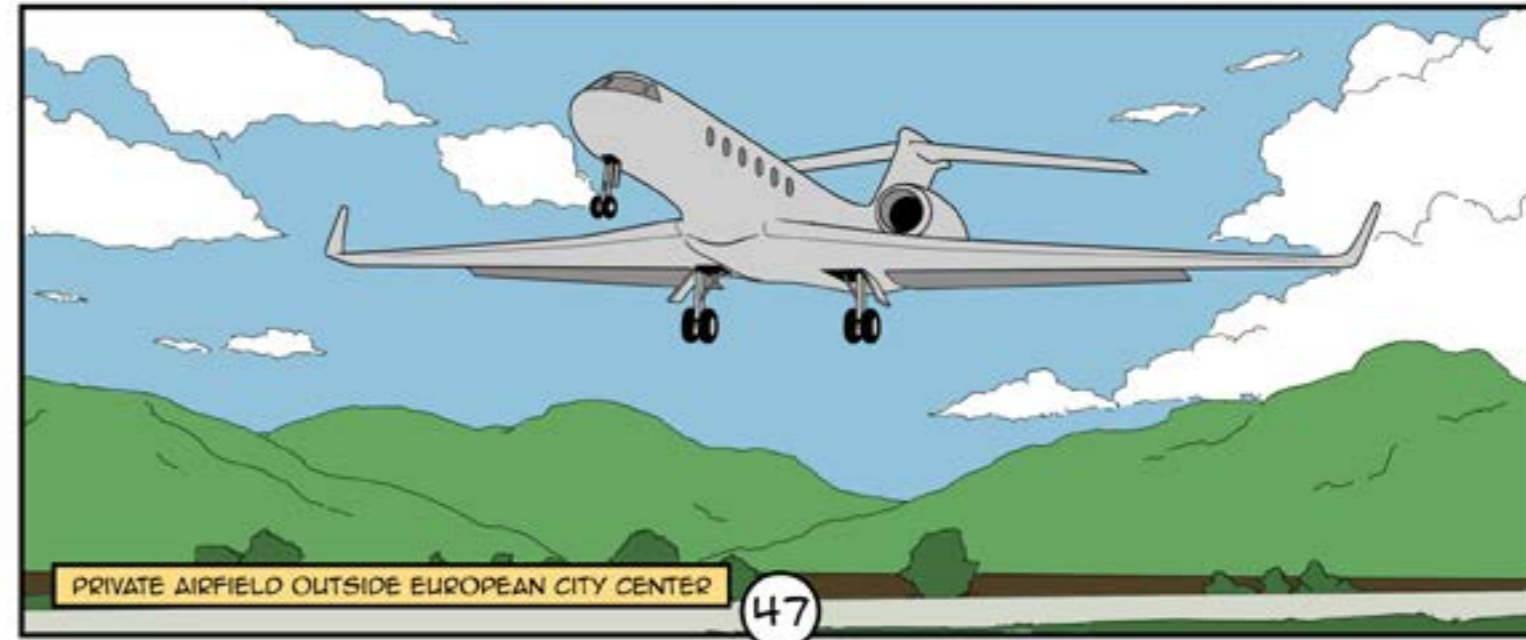


MY CONTACT THERE TIPPED ME OFF ON SOME CHATTER ABOUT THE FARMS WE ARE ABOUT TO VISIT.



AHHH!

WOOAAA! STEADY THERE! (LAUGHS)



PRIVATE AIRFIELD OUTSIDE EUROPEAN CITY CENTER



...SO BASED UPON OUR PROFITABILITY IN THE LAST TWO QUARTERS, YOU CAN SEE THAT THE OPPORTUNITIES FOR INVESTMENT ARE QUITE LUCRATIVE.

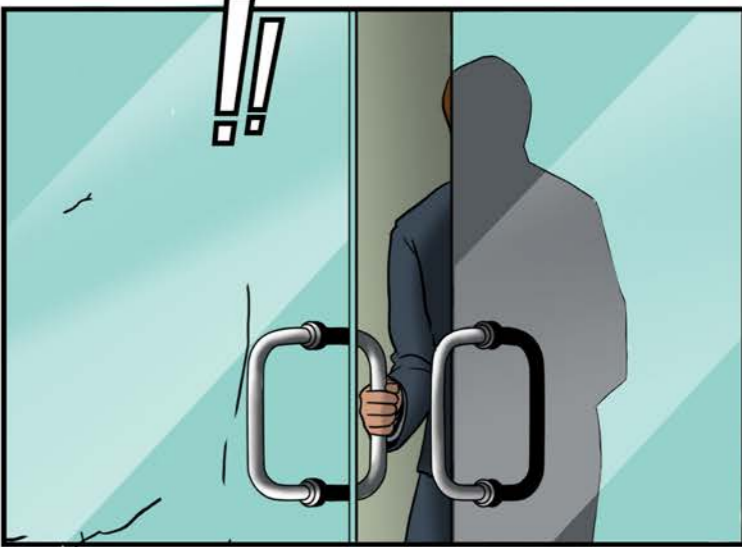
YOU ARE FORTUNATE TO BE AMONG THE FIRST WHO ARE CONSIDERING IT.

IMPRESSIVE, INDEED. WHAT DO YOU THINK?

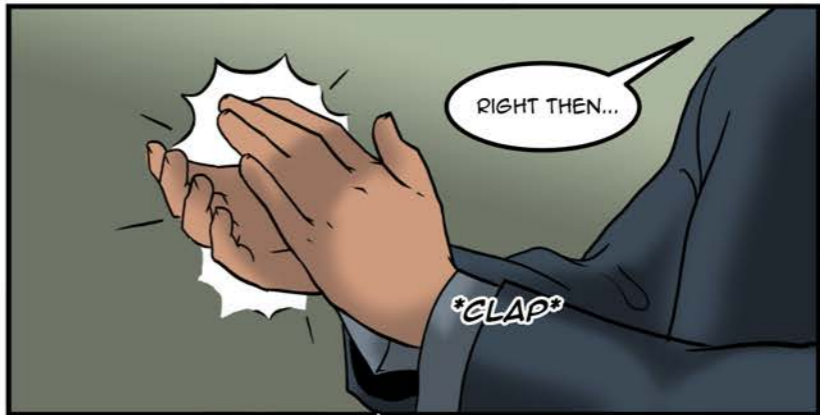
I LIKE WHAT I HEAR...



WELL THAT ABOUT DOES IT. THAT'S A SMOKING GUN IF WE EVER NEEDED ONE. THAT WAS ALMOST TOO EASY.

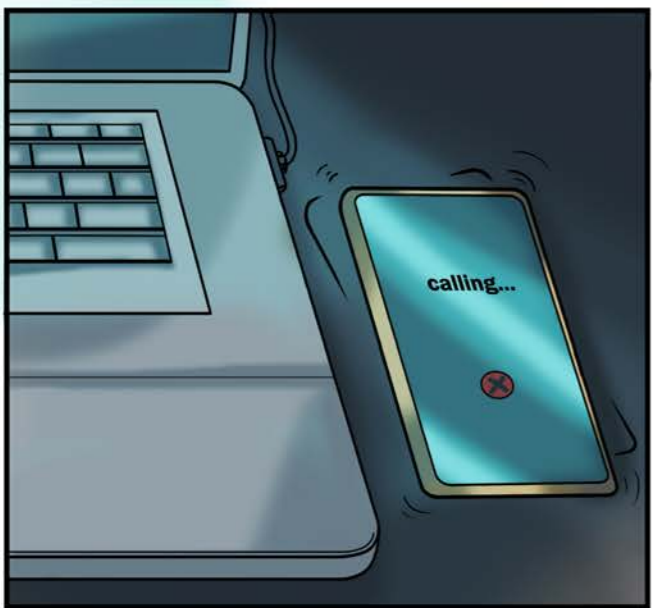


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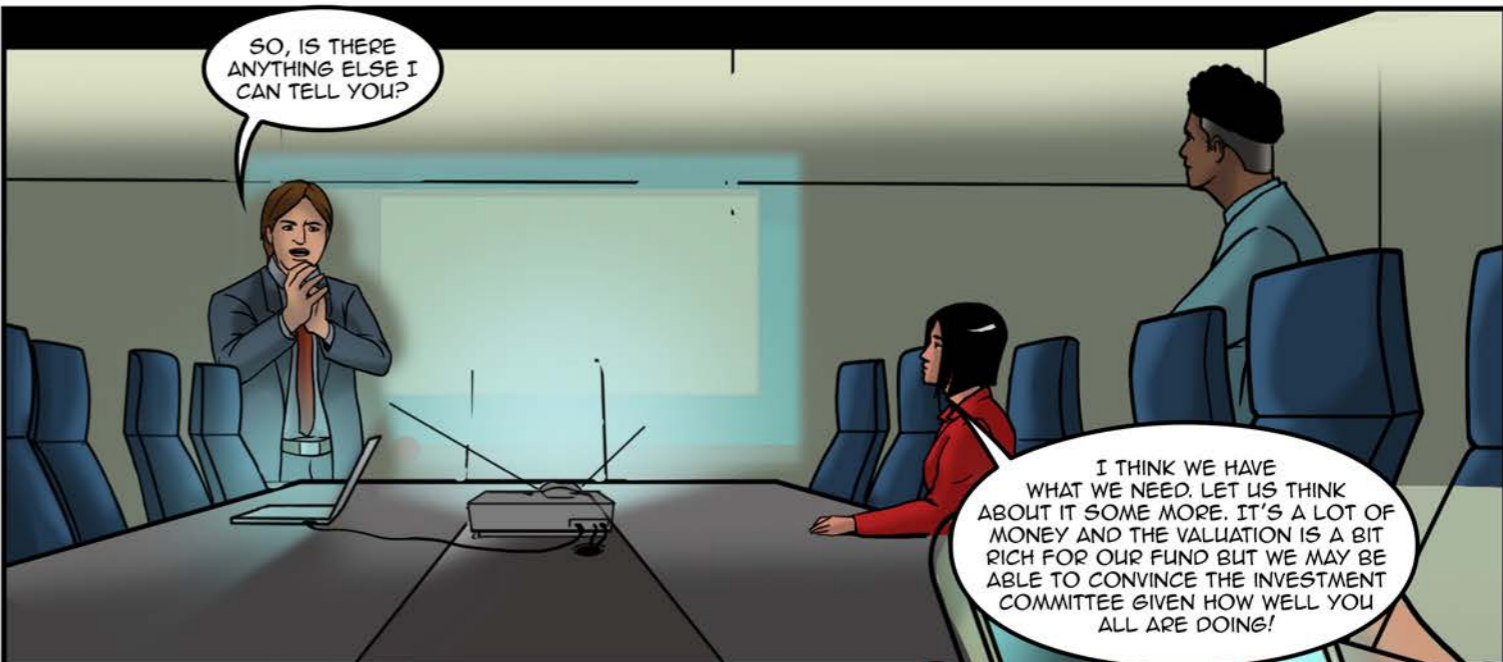


RIGHT THEN...

CLAP

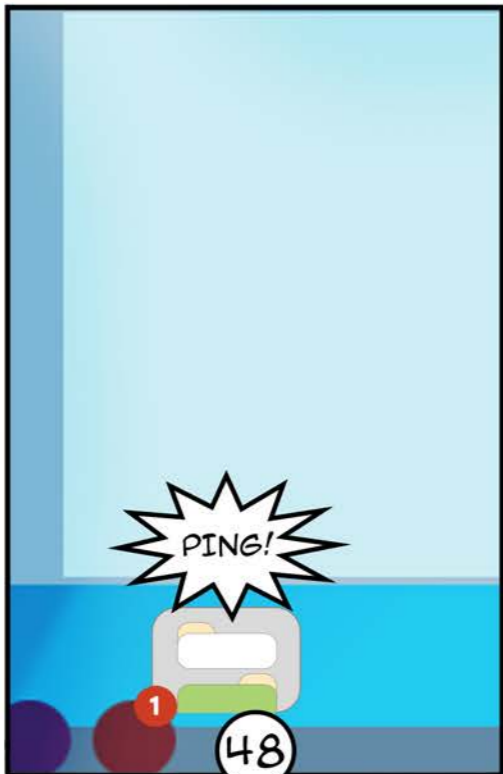


EXCUSE ME, I HAVE TO ATTEND TO THIS AS IT'S ANOTHER POTENTIAL INVESTOR.



SO, IS THERE ANYTHING ELSE I CAN TELL YOU?

I THINK WE HAVE WHAT WE NEED. LET US THINK ABOUT IT SOME MORE. IT'S A LOT OF MONEY AND THE VALUATION IS A BIT RICH FOR OUR FUND BUT WE MAY BE ABLE TO CONVINCE THE INVESTMENT COMMITTEE GIVEN HOW WELL YOU ALL ARE DOING!



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Preview
+44*****
We need an update on Project Solyanka and the Senator campaign?

admin

1



WELL, I CERTAINLY HOPE WE CAN DO BUSINESS TOGETHER. THANK YOU FOR COMING!



Just had a term sheet from a prospective US investor.

What's the offer? I can counter.

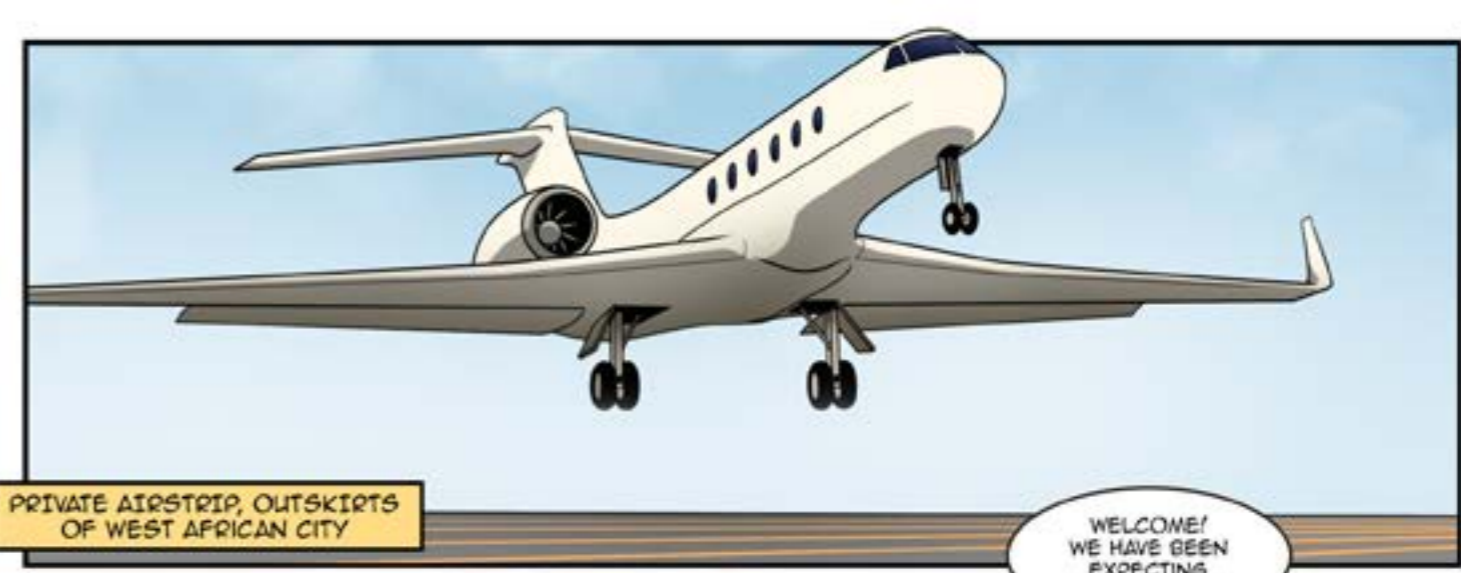
I am happy to consider another offer.

ZZT!!!

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To HQ
Rachel
I saw this number pop up on his screen, could you trace it for me? I think this might be what we need. :))



PRIVATE AIRSTRIP, OUTSKIRTS OF WEST AFRICAN CITY

WELCOME! WE HAVE BEEN EXPECTING YOU!



RACHEL TERMINAL V 1.5

TRANSFER COMPLETE



ANDREW PULLS OUT ALL THE PROTOCOL STOPS. DID I TELL YOU THAT HE KNOWS THE PRESIDENT PERSONALLY?



BRO! IT'S BEEN AGES!



YES, IT HAS.



WE HAVE A RAID PARTY READY AND A COURT-MANDATED SEARCH WARRANT IN HAND! THANKS FOR THE TIP-OFF.

YOU GUYS MIGHT WANT TO MOVE FAST. WE HEAR SOME CHATTER ABOUT SHIFTING BASE HERE. IF THAT HAPPENS THERE IS NO TELLING HOW LONG IT WILL TAKE FOR A NEW LEAD TO SURFACE. YOU MAY NEED TO TAKE THEM TONIGHT!



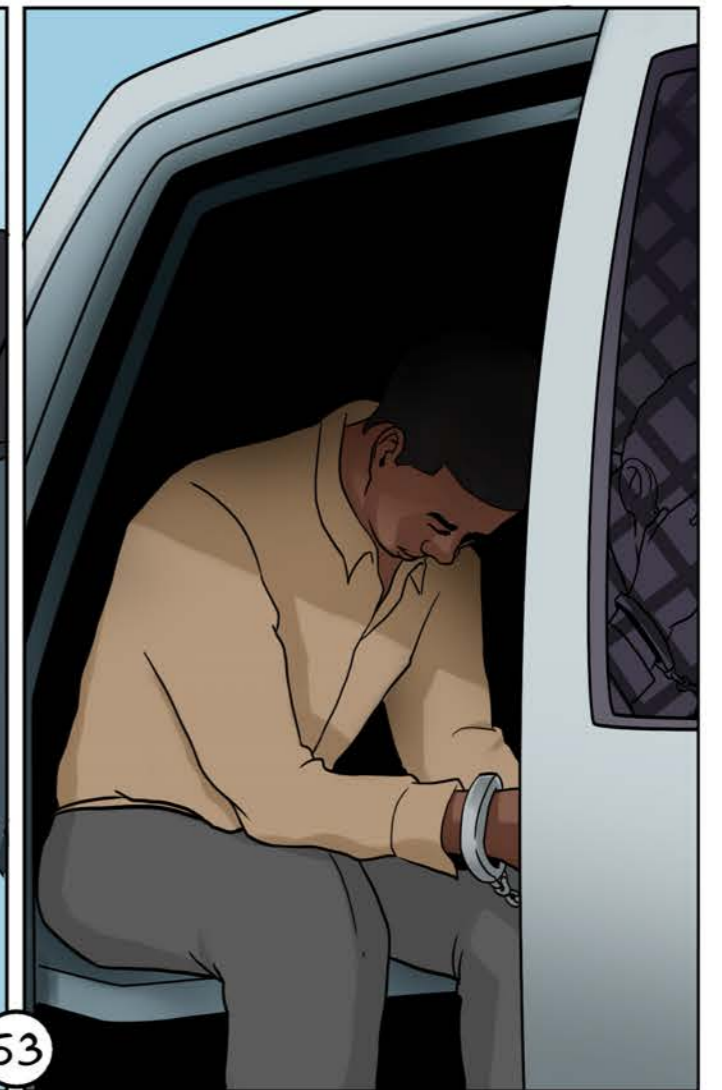
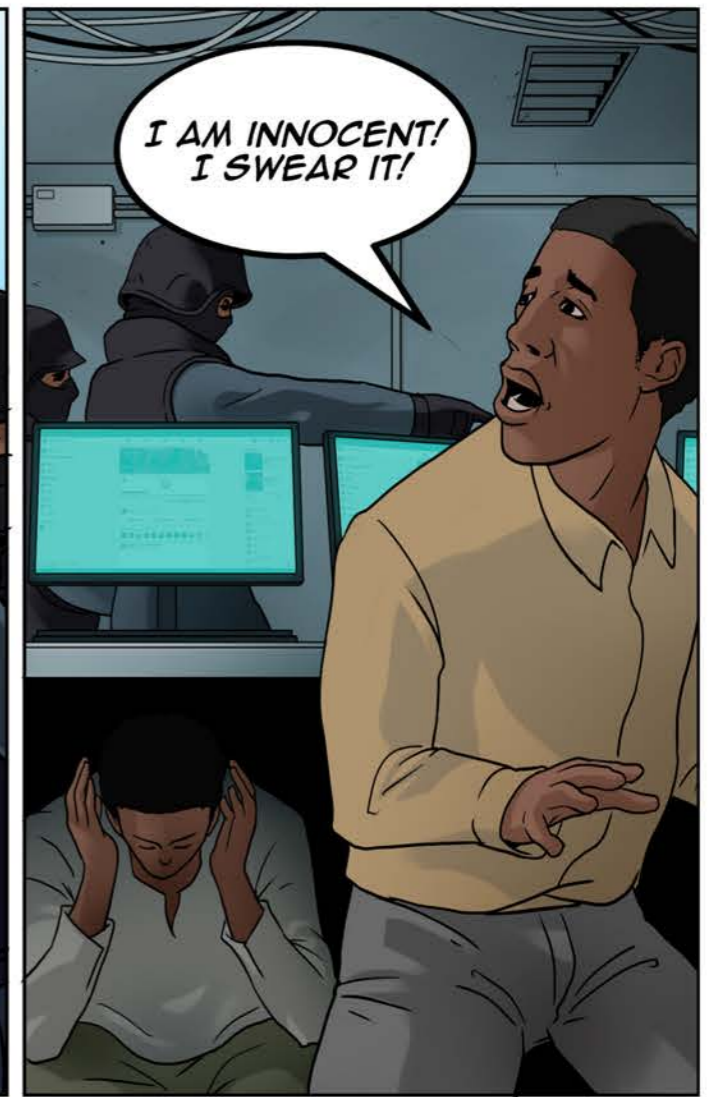
GLAD TO SEE YOU ARE STILL GREAT AT GETTING US BOTH IN OVER OUR HEADS.



HAVE FAITH, GENTLEMEN. WE HAVE THIS UNDER CONTROL BUT IT'S FAR FROM OVER!



WE KNOW THAT A NUMBER OF INTERNATIONAL PARTIES HAVE BEEN TRACKING THIS TROLL FARM AND ARE KEEN TO SPEAK WITH THE OWNERS OF THIS ALLEGED TROLL FARM.





I ALMOST FEEL BAD FOR THEM. DO YOU THINK THEY KNEW WHAT THEY WERE DOING?

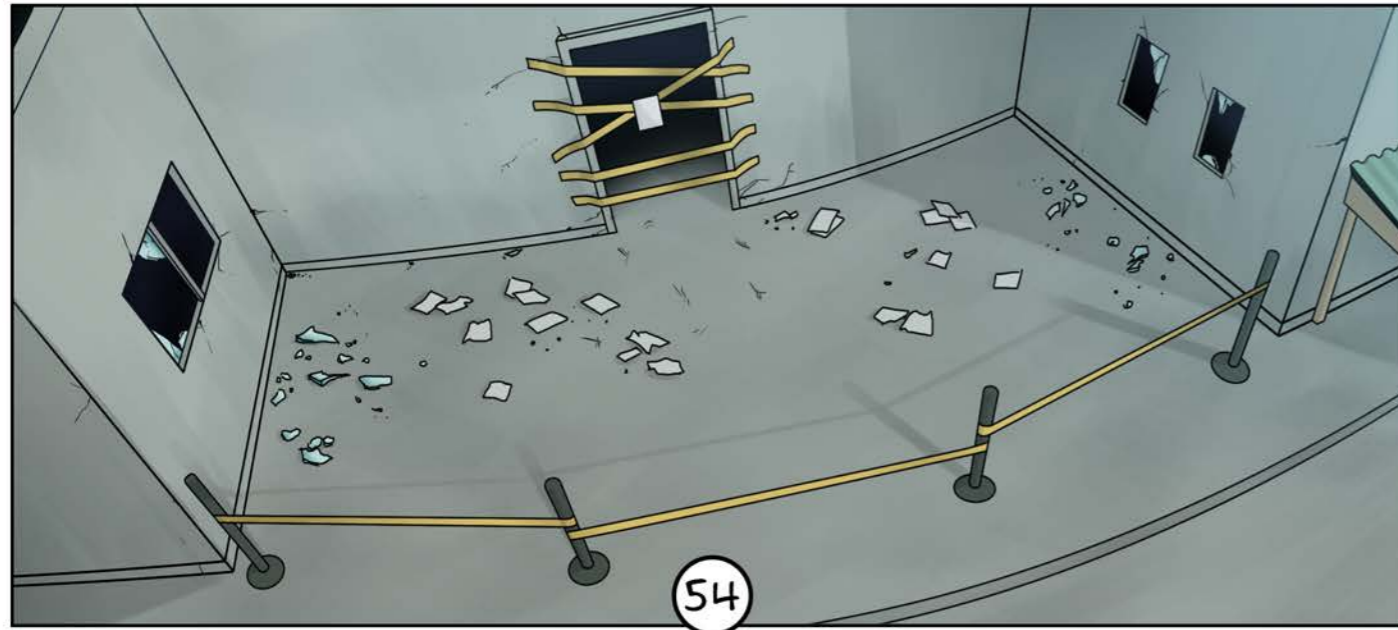
THE NEXT MORNING...



HOW COULD THEY NOT? I MEAN, THEY WERE MANUFACTURING PROPAGANDA. IT'S PRETTY OBVIOUS ISN'T IT?



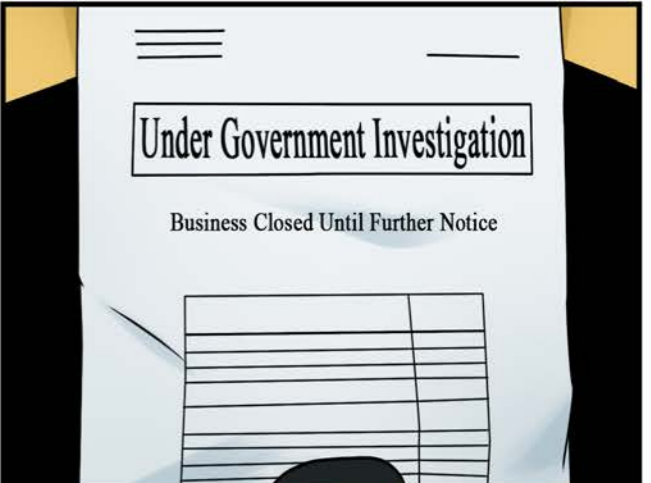
I'M NOT SO SURE. MAYBE, FROM THEIR PERSPECTIVE, THEY WERE MAKING A DIFFERENCE. YOU NEVER KNOW WHO WAS COMPLICIT AND WHO JUST GOT CAUGHT UP IN ALL OF THIS.



LATER THE SAME DAY, OUTSIDE THE NUNEWZ OFFICE.



THIS MAKES NO SENSE! THEY WERE ALL HERE JUST A FEW DAYS BACK! I SHOULD HAVE KNOWN, IT JUST SEEMED TOO GOOD TO BE TRUE.



55





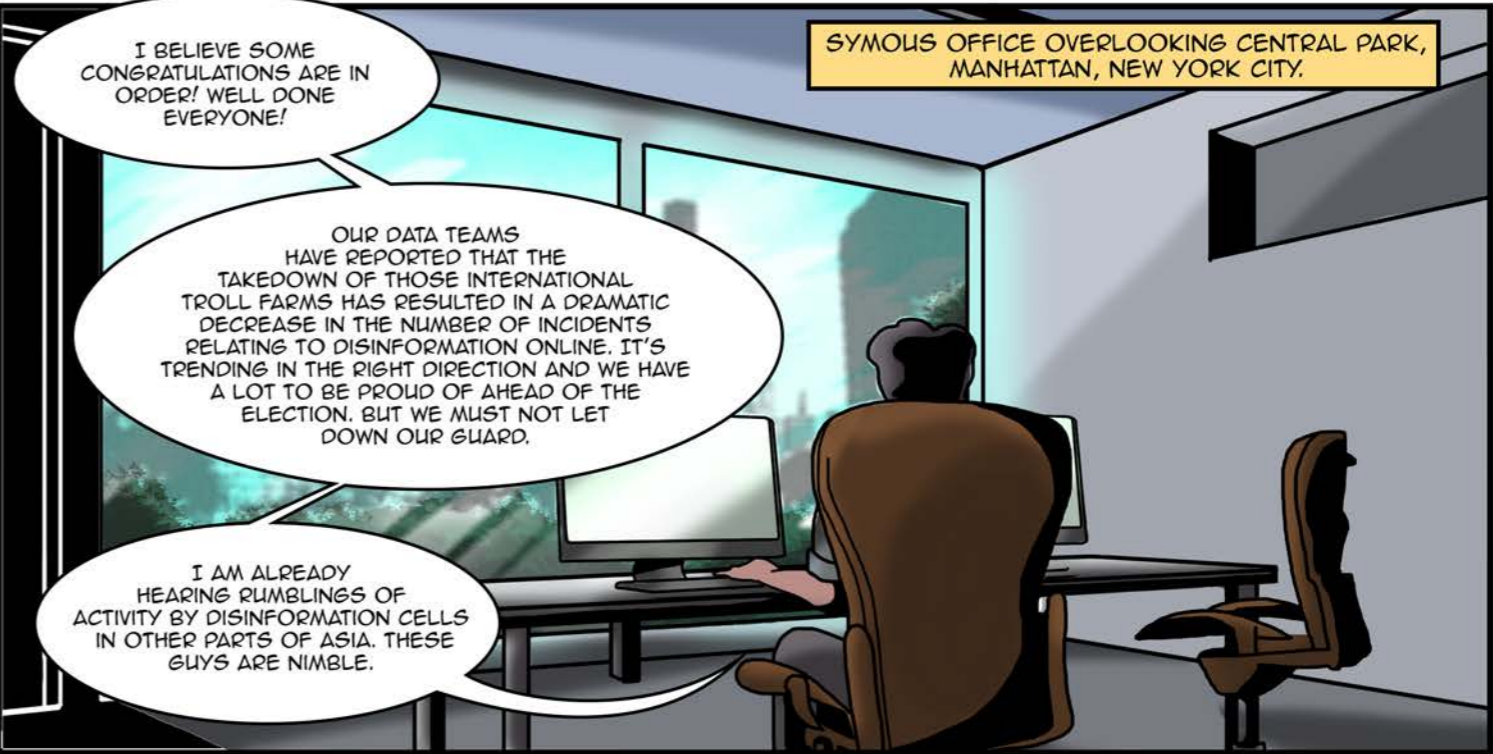
YOU WERE CAUGHT AT A WORKSTATION CREATING FALSE INFORMATION FOR MALICIOUS USE ONLINE. YOUR HANDLE HAS ALSO BEEN TRACED AS CONNECTED WITH THIS ACTIVITY.



PLEASE LET ME GO! I AM INNOCENT! I SWEAR IT. WE DID NOTHING WRONG! I WAS HIRED HERE. PLEASE CALL MY MOTHER...



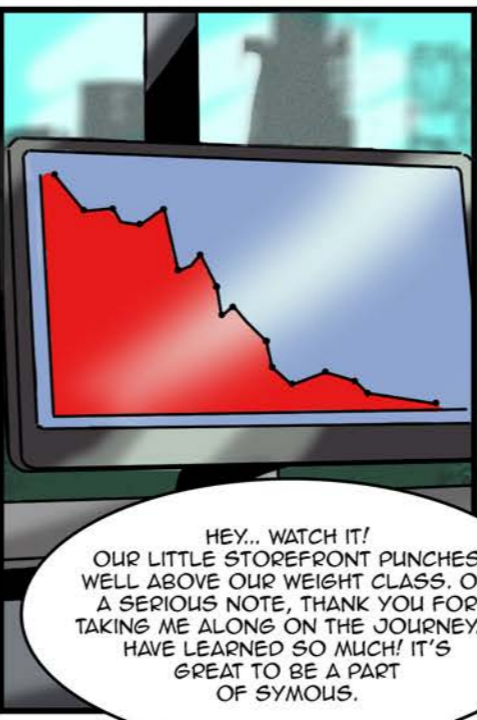
THE COURTS WILL NOW DECIDE IF YOU ARE GUILTY. DON'T WORRY...YOU ARE NOT ALONE! LOOKS LIKE YOU WILL ALL BE GETTING A CHANCE TO BECOME EVEN BETTER FRIENDS DURING YOUR STAY WITH US HERE AT THE STATION...



I BELIEVE SOME CONGRATULATIONS ARE IN ORDER! WELL DONE EVERYONE!

OUR DATA TEAMS HAVE REPORTED THAT THE TAKEDOWN OF THOSE INTERNATIONAL TROLL FARMS HAS RESULTED IN A DRAMATIC DECREASE IN THE NUMBER OF INCIDENTS RELATING TO DISINFORMATION ONLINE. IT'S TRENDING IN THE RIGHT DIRECTION AND WE HAVE A LOT TO BE PROUD OF AHEAD OF THE ELECTION. BUT WE MUST NOT LET DOWN OUR GUARD.

I AM ALREADY HEARING RUMBLINGS OF ACTIVITY BY DISINFORMATION CELLS IN OTHER PARTS OF ASIA. THESE GUYS ARE NIMBLE.



HEY... WATCH IT! OUR LITTLE STOREFRONT PUNCHES WELL ABOVE OUR WEIGHT CLASS. ON A SERIOUS NOTE, THANK YOU FOR TAKING ME ALONG ON THE JOURNEY. I HAVE LEARNED SO MUCH! IT'S GREAT TO BE A PART OF SYMIOUS.



THANKS MR. CHAIRMAN. LET'S JUST SAY ITS A "TEAM SPORT." NOW ANDRE CAN GO BACK TO THAT STOREFRONT HE CALLS AN OFFICE AND LET THE "PROFESSIONALS" DEAL WITH THE NEXT CHALLENGE.



WE ARE JUST GETTING STARTED ANDRE. AS WE HEAD INTO THE FINAL WEEKS AHEAD OF THE BIG ELECTION DAY, REST ASSURED THAT WE WILL BE CALLING ON YOU AGAIN SHOULD SOMETHING SURFACE.

NOTES FROM CISA

Disinformation is an existential threat to the United States, our democratic way of life, and the infrastructure on which it relies. The Resilience Series (of which this is the first title) uses the graphic novel format to communicate the dangers and risks associated with dis- and mis- information through fictional stories that are inspired by real-world events.

The Resilience Series graphic novels were commissioned by the Cybersecurity and Infrastructure Security Agency (CISA) to share information to illustrate:

- Foreign actors are trying to influence U.S. security, economy, and politics through the malicious use of online media to create and amplify disinformation.
- While the strategy of using inaccurate information to weaken and divide a society is not new, the internet and social media allow disinformation to spread more quickly than it has in the past.
- Deepfakes, bots, and troll farms are just some of the emerging techniques for creating and spreading disinformation.

CISA encourages everyone to consume information with care. Practicing media literacy – including verifying sources, seeking alternative viewpoints, and finding trusted sources of information – is the most effective strategy in limiting the effect of disinformation.

For more information and further reading about disinformation, please visit the Countering Foreign Influence Task Force webpage, www.cisa.gov/cfi-task-force.

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**We live in a world
where the internet is rife
with misinformation and
disinformation. In a precarious
digital world, the need for
awareness about this risk is
greater than ever. The Resilience
Series graphic novels have been
created as a medium to
communicate the threat of
inaccurate information
and its impact
on our world.**

**In REAL FAKE, the
first story in the series,
we meet the protagonist
Rachel O'Sullivan, a gamer,
patriot and member of Symous,
a group fighting disinformation,
deepfakes, troll farms
and foreign interference in
elections as Election Day
approaches.**